

Exhibit 12 Part 12

Part 3 of Attachment L to the Allocation Recommendation Report (ARR2201-ARR2294)

United States' Motion to Enter Consent Decree,
United States v. Alden Leeds, Inc. et al., Civil Action No. 22-7326 (D.N.J.)

Allocation Facility Cmass Calculation

Coats & Clark, Inc.	735 Broad Street	Bloomfield	NJ	07003
---------------------	------------------	------------	----	-------

Constituent Of Concern (COC)	Overland, Fate & Transport C%	Dmass Overland, Fate & Transport	PrePVSC C%	Dmass PrePVSC	PVSC C%	Dmass PVSC	Direct Discharge C%	Dmass Direct Discharge	COC Total Pathway Cmass	COC A%	COC Historic CMass
Copper	100.00%	140.82	100.00%	-	12.41%	-	100.00%	-	140.82	1.018817E-2	1.43
Lead	100.00%	255.02	100.00%	-	12.41%	-	100.00%	-	255.02	1.018817E-2	2.6
Mercury	100.00%	-	100.00%	-	12.41%	-	100.00%	-	0	1.018817E-2	0
HPAHs	100.00%	41.19	100.00%	-	12.41%	-	100.00%	-	41.19	1.018817E-2	0.42
LPAHs	100.00%	58.58	100.00%	-	12.41%	-	100.00%	-	58.58	1.018817E-2	0.6
PCBs	100.00%	-	100.00%	-	12.41%	-	100.00%	-	0	1.018817E-2	0
DDx	100.00%	-	100.00%	-	12.41%	-	100.00%	-	0	1.018817E-2	0
Dieldrin	100.00%	-	100.00%	-	12.41%	-	100.00%	-	0	1.018817E-2	0
Dioxins_Furans	100.00%	-	100.00%	-	12.41%	-	100.00%	-	0	1.018817E-2	0

Coats & Clark, Inc.

735 Broad Street

Bloomfield

NJ

07003

Constituent Of Concern (COC)	Relative Risk Number (RRN)	Total Mass (Tmass)	COC Historic CMass	COC Relative Contribution	COC Base Score
Copper	0.69	2,100,000.00	1.43	6.832E-7	4.714E-7
Lead	0.01	3,200,000.00	2.6	8.119E-7	8.119E-9
Mercury	0.95	42,000.00	0	0	0
HPAHs	0.05	240,000.00	0.42	1.749E-6	8.743E-8
LPAHs	0.01	170,000.00	0.6	3.511E-6	3.511E-8
PCBs	12.87	26,000.00	0	0	0
DDx	1.37	27,000.00	0	0	0
Dieldrin	0.13	390.00	0	0	0
Dioxins_Furans	83.92	38.00	0	0	0

Allocation Facility COC Base Scores - Alternative Calulcation

Coats & Clark, Inc.	735 Broad Street	Bloomfield	NJ	07003
---------------------	------------------	------------	----	-------

Constituent Of Concern (COC)	Relative Risk Number (RRN)	Total Mass (Tmass)	Total Cmass (TCmass)	Total OS COC ACmass	COC %	COC Historic CMass	Facility OS COC Cmass	COC Relative Responsibility	COC Base Score
Copper	0.69	2,100,000.00	276,960.25	2,097,178.28	5.084E-4	1.43	1,066.31	5.084E-4	3.508E-4
Lead	0.01	3,200,000.00	288,577.67	3,197,059.92	8.837E-4	2.6	2,825.29	8.837E-4	8.837E-6
Mercury	0.95	42,000.00	4,322.53	41,955.96	0	0	0	0	0
HPAHs	0.05	240,000.00	4,346,388.50	195,718.24	9.477E-6	0.42	1.85	9.477E-6	4.738E-7
LPAHs	0.01	170,000.00	3,012,835.14	139,304.72	1.944E-5	0.6	2.71	1.944E-5	1.944E-7
PCBs	12.87	26,000.00	20,066.54	25,795.56	0	0	0	0	0
DDx	1.37	27,000.00	2,516.93	26,974.36	0	0	0	0	0
Dieldrin	0.13	390.00	1.27	389.99	0	0	0	0	0
Dioxins_Furans	83.92	38.00	3,729.82	0.00	0	0	0	0	0

Facility Bypass Information

Coats & Clark, Inc.	735 Broad Street	Bloomfield	NJ	07003
---------------------	------------------	------------	----	-------

Item	Bypass Name	Bypass Type	Time %	Flow %	Bypass Notes
1	Union Outlet	Bypass	12.41%	100.00%	

Discharge Calcs	Direct Discharge Information	COMMENTS/NOTES
	# hours/day discharged	No information on sewer discharges or permits
	# days/week discharged	Thread Manufacturing/Dyeing process
	# weeks/yr discharged	1922 through "late" 1940s... some information say 1949
1,000,000	# gals/yr directly discharged	"Limited" Copper use at the facility
		1988 and 2000 sediment sampling results indicate Copper, Lead and Mercury both up gradient and down gradient.
4.08	ft: 30yr average annual precipitation per Rutgers information	Assuming discharge to the Third River and Passaic at 1MG per year. Assumption/Guesstimate
43,560	acres	discharge following wastewater treatment plant.
	ft2 per acre	
1922	Yr Ops started	
1949	Yr Ops ceased	
27	calc #yrs facility operated	
Copper (Cu)		
27	#yrs facility discharged	
-	calc mg/L COC discharged	Per Dr. Martin Bide's Expert Report, FDR Page 6
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Lead (Pb)		
27	#yrs facility discharged	
-	calc mg/L COC discharged	Per Dr. Martin Bide's Expert Report, FDR Page 6
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Mercury (Hg)		
27	#yrs facility discharged	
-	calc mg/L COC discharged	Per Dr. Martin Bide's Expert Report, FDR Page 6
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
HPAHs		
27	#yrs facility discharged	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
LPAHs		
27	#yrs facility discharged	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
PCBs		
21	#yrs facility discharged within PCBs Timeline	
	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
DDx		
10	#yrs facility discharged within DDx Timeline	
	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dieldrin		
0	#yrs facility discharged within Dieldrin Timeline	
	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxins/Furans		
27	#yrs facility discharged	
	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxin/Furan Precursor - 2,4-D		
4	#yrs facility discharged within 2,4-D Timeline	
	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxin/Furan Precursor - 2,4,5-T		
5	#yrs facility discharged within 2,4,5-T Timeline	
	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxin/Furan Precursor - 2,4,6-TCP		
0	#yrs facility discharged within 2,4,6-TCP Timeline	
	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Summary DMassCOC for Direct Discharge:		
-	kg Copper	
-	kg Lead	
-	kg Mercury	
-	kg HPAHs	
-	kg LPAHs	
-	kg PCBs	
-	kg DDx	
-	kg Dieldrin	
-	kg Dioxins/Furans	

Discharge Calcs	Direct Discharge Information	ASSUMPTIONS, REFERENCES	COMMENTS/NOTES
	4.08 FEET/YEAR AVERAGE PRECIPITATION	Long term average annual precipitation includes floods and hurricane events occurring over time.	Data from Rutgers University.
	40 ACRES - TOTAL SITE AREA	FDR p 1	
	30 ACRES - AFFECTED AREA	Rough estimate of site area with exposed fill determined from review of 1938 map (PAP-00075242). Estimating that 25% of the site had buildings	The Third River is a tributary to the Passaic and formed the southern and eastern boundaries of the site (FDR p 8)
	4,046.86 METERS ² /ACRE		
	121,406 METERS ² (AFFECTED AREA)		
	0.0001 METERS/YEAR (ERODED SOIL THICKNESS)	For this estimate, used a surface soil erosion rate of 0.1 mm/year, or 0.004 inches/year.	
	12 METERS ³ /YEAR (ERODED SOIL VOLUME)	VOLUME/YEAR DISCHARGED	
	1921 Year site operations began	Coats and Clark (as Clark Thread Company) bought the land 8/10/1921 (FDR p 1)	
	1947 Year site processing and storage operations ceased	Coats and Clark (as Clark Thread Company) sold the land on 9/17/1947 to Scientific Glass Apparatus Company Inc (FDR p 1)	
	26 NUMBER YEARS DISCHARGE		
	316 METERS ³ (TOTAL SOIL VOLUME DISCHARGED OVER TIME)		
	1,875 KG/M ³ SOIL DENSITY	Surface soil is 1-5' of sand atop 2-3' silty sand (PAP-00077857). Density of silty sand and gravel ranges from 1378 to 2371 kg/m ³ , so the average is used. (http://structx.com/Soil_Properties_002.html)	
	591,695 KILOGRAMS (TOTAL SOIL DISCHARGED OVER TIME)	Site is partially located on regional Historic Fill (FDR p 7)	AOCs were COCs have been detected in soil but are not specifcally related to Scientific Glass Apparatus Co operations (later owner/operator at this site) were evaluated (FDR p 10)
Copper (Cu)	26 YEARS DISCHARGED	Copper sulfate was used as part of the dyeing processes (FDR p 1-2)	
	238 MG/KG (MAX CONCENTRATION)	Max concentration at AOC 14 Sample TP-12S (1-2 ft bgs) (PAP-00075799, PAP-00076155)	
	0.000001 kg per mg (Merck Index)		
	141 KILOGRAMS DISCHARGED		
Lead (Pb)	26 YEARS DISCHARGED	No info regarding storage or use of lead on site (FDR p 6)	
	431 MG/KG (MAX CONCENTRATION)	Max concentration at AOC 15 Sample TP-14S (0-1 ft bgs) (PAP-00075800, PAP-000777868)	
	0.000001 kg per mg (Merck Index)		
	255 KILOGRAMS DISCHARGED		
Mercury (Hg)	26 YEARS DISCHARGED	No info regarding storage or use of mercury on site (FDR p 5)	
	0.0 MG/KG (MAX CONCENTRATION)	Mercury concentration set at 0 mg/kg because the mercury detections in soil were associated with thermometer manufacturing by the subsequent operator, Scientific Glass Apparatus Company, Inc. (FDR page 5).	
	0.000001 kg per mg (Merck Index)		
	0 KILOGRAMS DISCHARGED		

PAHs (listed in Benzo(a)pyrene Equivalent conversion table)	
	26 YEARS DISCHARGED
69.6	MG/KG (TOTAL PAH AVERAGE CONCENTRATION)
0.000001	kg per mg (Merck Index)
41	KILOGRAMS DISCHARGED
PAHs (others detected)	
	26 YEARS DISCHARGED
	99 MG/KG (TOTAL PAH MAX CONCENTRATION)
0.000001	kg per mg (Merck Index)
59	KILOGRAMS DISCHARGED
PCBs	
	26 YEARS DISCHARGED
	0 MG/KG (MAX OF REPORTED CONCENTRATIONS)

0.000001	kg per mg (Merck Index)
0	KILOGRAMS DISCHARGED
DDx	
	0 YEARS DISCHARGED within DDx Timeline
	MG/KG (MAX CONCENTRATION)
	0 L per gallon (Merck Index)
0.000001	kg per mg (Merck Index)
0	KILOGRAMS DISCHARGED
Dieldrin	
	0 YEARS DISCHARGED within Dieldrin Timeline
	MG/KG (MAX CONCENTRATION)
	3.785 L per gallon (Merck Index)
0.000001	kg per mg (Merck Index)
0	KILOGRAMS DISCHARGED
Dioxins/Furans	NONE FOUND IN AVAILABLE DOCUMENTATION
	0 YEARS DISCHARGED
	MG/KG (MAX CONCENTRATION)
0.000001	kg per mg (Merck Index)
0	calc kg COC discharged

SUMMARY CMASS ESTIMATES:	
140.82	kg Copper
255.02	kg Lead
0.00	kg Mercury
41.19	kg PAHs (Benzo(a)pyrene Equivalent)
58.58	kg PAHs (Other)
0.00	kg PCBs
0.00	kg DDx
0.00	kg Dieldrin
0.00	kg Dioxins/Furans
495.61	MASS (KG) DISCHARGED FROM SURFACE SOIL

Total concentration of PAH compounds for Benzo(a)pyrene Equivalent
<https://floridadep.gov/waste/petroleum-restoration/documents/benzo-pyrene-equivalents-conversion-table-one-sample>.

Data below the Benzo(a)pyrene Equivalent table

No info regarding storage or use of PCBs on site (FDR p 4)

PCBs concentration set at 0 mg/kg because the PCB detections in soil were were not associated with site operations, but were likely the result of PCBs in historical building material formulations that were filled on site (such as caulk). PCB-containing caulks were used in buildings between 1950 and 1978, after Coats and Clark owned and operated at the site (FDR pages 1 and 4).

PAH contamination is not attributable to site-specific operations (FDR p 5)

AOC 16 Sample TP-21S (0-1 ft bgs). (PAP-00075806-7, PAP-0007582)

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	55.000	1.0	55.0000
Benzo(a)anthracene	68.000	0.1	6.8000
Benzo(b)fluoranthene	44.000	0.1	4.4000
Benzo(k)fluoranthene	43.000	0.01	0.4300
Chrysene	79.000	0.001	0.0790
Dibenz(a,h)anthracene	0.000	1.0	0.0000
Indeno(1,2,3-cd)pyrene	29.000	0.1	2.9000
DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg			
Total Benzo(a)pyrene Equivalents =			69.6

All PAH values from AOC 16 Sample TP-21S (0-1 ft bgs). (PAP-00075806-7, PAP-00075822)

Anthracene	0
Acenaphthene	0
Acenaphthylene	0
Fluorene	0
Naphthalene	0
Phenanthrene	99
2-Methylnaphthalene	0
SUM	99

Allocation Facility Cmass Calculation

Coats & Clark, Inc.	900 Passaic Avenue /260 Ogden Street	East Newark	NJ	07032
---------------------	--------------------------------------	-------------	----	-------

Constituent Of Concern (COC)	Overland, Fate & Transport C%	Dmass Overland, Fate & Transport	PrePVSC C%	Dmass PrePVSC	PVSC C%	Dmass PVSC	Direct Discharge C%	Dmass Direct Discharge	COC Total Pathway Cmass	COC A%	COC Historic CMass
Copper	100.00%	243.51	100.00%	-	0.23%	-	100.00%	33.1	276.63	1.018817E-2	2.82
Lead	100.00%	579.79	100.00%	-	0.23%	-	100.00%	-	579.79	1.018817E-2	5.91
Mercury	100.00%	-	100.00%	-	0.23%	-	100.00%	-	0	1.018817E-2	0
HPAHs	100.00%	1.78	100.00%	-	0.23%	-	100.00%	-	1.78	1.018817E-2	0.02
LPAHs	100.00%	4.9	100.00%	-	0.23%	-	100.00%	-	4.9	1.018817E-2	0.05
PCBs	100.00%	-	100.00%	-	0.23%	-	100.00%	-	0	1.018817E-2	0
DDx	100.00%	-	100.00%	-	0.23%	-	100.00%	-	0	1.018817E-2	0
Dieldrin	100.00%	-	100.00%	-	0.23%	-	100.00%	-	0	1.018817E-2	0
Dioxins_Furans	100.00%	-	100.00%	-	0.23%	-	100.00%	-	0	1.018817E-2	0

Allocation Facility COC Base Scores - Protocol Calculation

Coats & Clark, Inc.	900 Passaic Avenue /260 Ogden Street	East Newark	NJ	07032
---------------------	--------------------------------------	-------------	----	-------

Constituent Of Concern (COC)	Relative Risk Number (RRN)	Total Mass (Tmass)	COC Historic CMass	COC Relative Contribution	COC Base Score
Copper	0.69	2,100,000.00	2.82	1.342E-6	9.260E-7
Lead	0.01	3,200,000.00	5.91	1.846E-6	1.846E-8
Mercury	0.95	42,000.00	0	0	0
HPAHs	0.05	240,000.00	0.02	7.556E-8	3.778E-9
LPAHs	0.01	170,000.00	0.05	2.937E-7	2.937E-9
PCBs	12.87	26,000.00	0	0	0
DDx	1.37	27,000.00	0	0	0
Dieldrin	0.13	390.00	0	0	0
Dioxins_Furans	83.92	38.00	0	0	0

Allocation Facility COC Base Scores - Alternative Calulcation

Coats & Clark, Inc.	900 Passaic Avenue /260 Ogden Street	East Newark	NJ	07032
---------------------	--------------------------------------	-------------	----	-------

Constituent Of Concern (COC)	Relative Risk Number (RRN)	Total Mass (Tmass)	Total Cmass (TCmass)	Total OS COC ACmass	COC %	COC Historic CMass	Facility OS COC Cmass	COC Relative Responsibility	COC Base Score
Copper	0.69	2,100,000.00	276,960.25	2,097,178.28	9.988E-4	2.82	2,094.67	9.988E-4	6.892E-4
Lead	0.01	3,200,000.00	288,577.67	3,197,059.92	2.009E-3	5.91	6,423.31	2.009E-3	2.009E-5
Mercury	0.95	42,000.00	4,322.53	41,955.96	0	0	0	0	0
HPAHs	0.05	240,000.00	4,346,388.50	195,718.24	4.095E-7	0.02	0.08	4.095E-7	2.048E-8
LPAHs	0.01	170,000.00	3,012,835.14	139,304.72	1.626E-6	0.05	0.23	1.626E-6	1.626E-8
PCBs	12.87	26,000.00	20,066.54	25,795.56	0	0	0	0	0
DDx	1.37	27,000.00	2,516.93	26,974.36	0	0	0	0	0
Dieldrin	0.13	390.00	1.27	389.99	0	0	0	0	0
Dioxins_Furans	83.92	38.00	3,729.82	0.00	0	0	0	0	0

Discharge Calcs	Direct Discharge Information	COMMENTS/NOTES
	# hours/day discharged	No information on sewer discharges or permits
	# days/week discharged	Thread Manufacturing/Dyeing process
	# weeks/yr discharged	1922 through "late" 1940s...some information say 1949
1,000,000	# gals/yr directly discharged	"Limited" Copper use at the facility
4.08	ft: 30yr average annual precipitation per Rutgers information	
43,560	ft2 per acre	Assuming discharge to the Passaic at 1MG per year. Assumption/Guesstimate
	acres	Direct discharge w/o wastewater treatment
50%	Percent Precip to River	
1865	Yr Ops started	
1926	Yr Ops ceased	
61	calc #yrs facility operated	
Copper (Cu)		
35	#yrs facility discharged	
0.250	calc mg/L COC discharged	Per Dr. Martin Bide's Expert Report, FDR Page 7-8
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
33.12	calc kg COC discharged	
Lead (Pb)		
61	#yrs facility discharged	
-	calc mg/L COC discharged	Per Dr. Martin Bide's Expert Report, FDR Page 7-8
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Mercury (Hg)		
61	#yrs facility discharged	
-	calc mg/L COC discharged	Per Dr. Martin Bide's Expert Report, FDR Page 8
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
HPAHs		
61	#yrs facility discharged	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
LPAHs		
61	#yrs facility discharged	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
PCBs		
-2	#yrs facility discharged within PCBs Timeline	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
DDx		
-13	#yrs facility discharged within DDx Timeline	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dieldrin		
-23	#yrs facility discharged within Dieldrin Timeline	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxins/Furans		
61	#yrs facility discharged	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxin/Furan Precursor - 2,4-D		
-19	#yrs facility discharged within 2,4-D Timeline	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxin/Furan Precursor - 2,4,5-T		
-18	#yrs facility discharged within 2,4,5-T Timeline	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxin/Furan Precursor - 2,4,6-TCP		
-23	#yrs facility discharged within 2,4,6-TCP Timeline	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Summary DMassCOC for Direct Discharge:		
33.12	kg Copper	
-	kg Lead	
-	kg Mercury	
-	kg HPAHs	
-	kg LPAHs	
-	kg PCBs	
-	kg DDx	
-	kg Dieldrin	
-	kg Dioxins/Furans	

PCBs	
	124 YEARS DISCHARGED
	0 MG/KG MAX OF REPORTED CONCENTRATIONS)

No info on use or presence of PCBs on site (FDR p 6)
Only data from the East Newark mill site is available and has been used as sitewide data. Max of most shallow data (0.5-1 ft bgs) used

PCBs concentrations set at 0 mg/kg because the PCB detections in soil were not associated with the pre-1935 mill complex operations (FDR page 6) and the portion of the site that has mercury data (East Newark Mill) was sold in 1935 (FDR page 1).

Sample B-131-1.5 (1-1.5 ft bgs) collected in 2013 (PAP-00080363)	
Anthracene	1.52
Acenaphthene	0.37
Acenaphthylene	0.236
Fluorene	0.653
Naphthalene	0.314
Phenanthrene	8.51
2-Methylnaphthalene	0.239
SUM	11.842

	0.000001 kg per mg (Merck Index)
	0 KILOGRAMS DISCHARGED
DDx	
	124 YEARS DISCHARGED within DDx Timeline
	MG/KG (MAX CONCENTRATION)
	3.785 L per gallon (Merck Index)
	0.000001 kg per mg (Merck Index)
	0 KILOGRAMS DISCHARGED
Dieldrin	
	124 YEARS DISCHARGED within Dieldrin Timeline
	MG/KG (MAX CONCENTRATION)
	3.785 L per gallon (Merck Index)
	0.000001 kg per mg (Merck Index)
	0 KILOGRAMS DISCHARGED
Dioxins/Furans	NONE FOUND IN AVAILABLE DOCUMENTATION
	124 YEARS DISCHARGED
	MG/KG (MAX CONCENTRATION)
	0.000001 kg per mg (Merck Index)
	0 kg COC discharged

SUMMARY CMASS ESTIMATES:	
	243.51 kg Copper
	579.79 kg Lead
	0.00 kg Mercury
	1.78 kg PAHs (Benzo(a)pyrene Equivalent)
	4.90 kg PAHs (Other)
	0.00 kg PCBs
	0.00 kg DDx
	0.00 kg Dieldrin
	0.00 kg Dioxins/Furans

829.99 MASS (KG) DISCHARGED FROM SURFACE SOIL

Facility Bypass Information

Coats & Clark, Inc.	900 Passaic Avenue /260 Ogden Street	East Newark	NJ	07032
---------------------	--------------------------------------	-------------	----	-------

Item	Bypass Name	Bypass Type	Time %	Flow %	Bypass Notes
1	Central Ave	CSO	0.37%	61.94%	

For Public Disclosure by Consent of the Participating Allocation Parties and EPA (Fall 2022)

Case 2:22-cv-07326-MCA-LDW Document 289-11 Filed 01/31/24 Page 16 of 95 PageID: 7041

Facility Base Scores, Culpability Factor, Cooperation Factor and Adjusted Base Scores - Protocol Calculation									
Coats & Clark, Inc.									
900 Passaic Avenue /260 Ogden Street				East Newark	NJ	07032			
Facility BS	CUF	CUF_Category		CUF_NOTES		COF	COF_NOTES		Facillty Adjusted BS
9.512E-7	0.0%	Historically Compliant or	No Evidence	Facilty was identified by the PVSC as polluting the Passaic River in 1926, but this pollution was subsequently eliminated when the wet operations were moved to Bloomfield (which had a water treatment plant) in 1926 (PAS-00027177-78; PAP-00128118). No information on violations was identified in the available file material.		-20.0%	-20% CPG/SPG member - Continuous provision of funding and participation in PRP Group(s) actions to cooperate with governmental/regulatory entities to address environmental or public harm created by own activities		7.610E-7
735 Broad Street				Bloomfield	NJ	07003			
Facility BS	CUF	CUF_Category		CUF_NOTES		COF	COF_NOTES		Facillty Adjusted BS
6.021E-7	0.0%	Historically Compliant or	No Evidence	EPA performed a Potential Hazardous Waste Site Preliminary Assessment in 1982 in response to a complaint that mercury was disposed on-site in a shallow pit and surface water. Facilty was indicated to be abating pollution with their water treatment plant when processes were moved there in 1926 (PAP-00128118; PAP-00129824). Given date of insepection, difficult to ascertain whether actions resulting in contaminantion were during Coats & Clark operations on site.		-20.0%	-20% CPG/SPG member - Continuous provision of funding and participation in PRP Group(s) actions to cooperate with governmental/regulatory entities to address environmental or public harm created by own activities		4.816E-7
									AP_ABS
									1.243E-6

For Public Disclosure by Consent of the Participating Allocation Parties and EPA (Fall 2022)
Case 2:22-cv-07326-MCA-LDW Document 289-11 Filed 01/31/24 Page 17 of 95 PageID: 7042

Facility Base Scores, Culpability Factor, Cooperation Factor and Adjusted Base Scores - Allocation Calculation									
Coats & Clark, Inc.									
900 Passaic Avenue /260 Ogden Street			East Newark	NJ	07032				
Facility BS	CUF	CUF_Category		CUF_NOTES		COF	COF_NOTES		Facillty Adjusted BS
7.093E-4	0.0%	Historically Compliant or	No Evidence	Facilty was identified by the PVSC as polluting the Passaic River in 1926, but this pollution was subsequently eliminated when the wet operations were moved to Bloomfield (which had a water treatment plant) in 1926 (PAS-00027177-78; PAP-00128118). No information on violations was identified in the available file material.		-20.0%	-20% CPG/SPG member - Continuous provision of funding and participation in PRP Group(s) actions to cooperate with governmental/regulatory entities to address environmental or public harm created by own activities		5.674E-4
735 Broad Street			Bloomfield	NJ	07003				
Facility BS	CUF	CUF_Category		CUF_NOTES		COF	COF_NOTES		Facillty Adjusted BS
3.603E-4	0.0%	Historically Compliant or	No Evidence	EPA performed a Potential Hazardous Waste Site Preliminary Assessment in 1982 in response to a complaint that mercury was disposed on-site in a shallow pit and surface water. Facilty was indicated to be abating pollution with their water treatment plant when processes were moved there in 1926 (PAP-00128118; PAP-00129824). Given date of insepection, difficult to ascertain whether actions resulting in contaminantion were during Coats & Clark operations on site.		-20.0%	-20% CPG/SPG member - Continuous provision of funding and participation in PRP Group(s) actions to cooperate with governmental/regulatory entities to address environmental or public harm created by own activities		2.883E-4
									AP_ABS
									8.557E-4

Allocation Facility Cmass Calculation

Congoleum Corp.	195 Belgrove Drive	Kearny	NJ	07032
-----------------	--------------------	--------	----	-------

Constituent Of Concern (COC)	Overland, Fate & Transport C%	Dmass Overland, Fate & Transport	PrePVSC C%	Dmass PrePVSC	PVSC C%	Dmass PVSC	Direct Discharge C%	Dmass Direct Discharge	COC Total Pathway Cmass	COC A%	COC Historic CMass
Copper	100.00%	982.92	100.00%	-	0.04%	-	100.00%	-	982.92	1.018817E-2	10.01
Lead	100.00%	1,369.24	100.00%	-	0.04%	-	100.00%	-	1,369.24	1.018817E-2	13.95
Mercury	100.00%	13.71	100.00%	-	0.04%	-	100.00%	-	13.71	1.018817E-2	0.14
HPAHs	100.00%	13.87	100.00%	1,013.78	0.04%	1,333.92	100.00%	1,798.6	2,826.87	1.018817E-2	28.8
LPAHs	100.00%	29.74	100.00%	675.85	0.04%	889.28	100.00%	1,199.1	1,905.07	1.018817E-2	19.41
PCBs	100.00%	382.96	100.00%	-	0.04%	-	100.00%	-	382.96	1.018817E-2	3.9
DDx	100.00%	1.56	100.00%	-	0.04%	-	100.00%	-	1.56	1.018817E-2	0.02
Dieldrin	100.00%	-	100.00%	-	0.04%	-	100.00%	-	0	1.018817E-2	0
Dioxins_Furans	100.00%	-	100.00%	-	0.04%	-	100.00%	-	0	1.018817E-2	0

Constituent Of Concern (COC)	Relative Risk Number (RRN)	Total Mass (Tmass)	COC Historic CMass	COC Relative Contribution	COC Base Score
Copper	0.69	2,100,000.00	10.01	4.769E-6	3.290E-6
Lead	0.01	3,200,000.00	13.95	4.359E-6	4.359E-8
Mercury	0.95	42,000.00	0.14	3.326E-6	3.159E-6
HPAHs	0.05	240,000.00	28.8	1.200E-4	6.000E-6
LPAHs	0.01	170,000.00	19.41	1.142E-4	1.142E-6
PCBs	12.87	26,000.00	3.9	1.501E-4	1.931E-3
DDx	1.37	27,000.00	0.02	5.886E-7	8.065E-7
Dieldrin	0.13	390.00	0	0	0
Dioxins_Furans	83.92	38.00	0	0	0

Allocation Facility COC Base Scores - Alternative Calulcation

Congoleum Corp.	195 Belgrove Drive	Kearny	NJ	07032
-----------------	--------------------	--------	----	-------

Constituent Of Concern (COC)	Relative Risk Number (RRN)	Total Mass (Tmass)	Total Cmass (TCmass)	Total OS COC ACmass	COC %	COC Historic CMass	Facility OS COC Cmass	COC Relative Responsibility	COC Base Score
Copper	0.69	2,100,000.00	276,960.25	2,097,178.28	3.549E-3	10.01	7,442.8	3.549E-3	2.449E-3
Lead	0.01	3,200,000.00	288,577.67	3,197,059.92	4.745E-3	13.95	15,169.37	4.745E-3	4.745E-5
Mercury	0.95	42,000.00	4,322.53	41,955.96	3.172E-3	0.14	133.07	3.172E-3	3.013E-3
HPAHs	0.05	240,000.00	4,346,388.50	195,718.24	6.504E-4	28.8	127.29	6.504E-4	3.252E-5
LPAHs	0.01	170,000.00	3,012,835.14	139,304.72	6.323E-4	19.41	88.08	6.323E-4	6.323E-6
PCBs	12.87	26,000.00	20,066.54	25,795.56	1.908E-2	3.9	492.3	1.908E-2	2.456E-1
DDx	1.37	27,000.00	2,516.93	26,974.36	6.198E-4	0.02	16.72	6.198E-4	8.491E-4
Dieldrin	0.13	390.00	1.27	389.99	0	0	0	0	0
Dioxins_Furans	83.92	38.00	3,729.82	0.00	0	0	0	0	0

Facility Bypass Information

Congoleum Corp.	195 Belgrove Drive	Kearny	NJ	07032
-----------------	--------------------	--------	----	-------

Item	Bypass Name	Bypass Type	Time %	Flow %	Bypass Notes
1	Nairne Ave	CSO	0.22%	19.85%	

Discharge Calcs	POTW Discharge Information	COMMENTS/NOTES
	gal discharged per day	1972 Waste Effluent Survey used for flow rates
	# hours/per day discharged	39,158,000 gallons to Sanitary Sewer
	#days/week discharged	PAP-00056086,8
	#weeks/yr discharged	
39,158,000.00	calc gal/yr discharge	
	1886 Yr Ops started	
	1974 Yr Ops ceased	
	88 calc #yrs facility operated	
Copper (Cu)		
	88 #yrs facility discharged	
-	calc mg/L COC discharged	PAP-0056085-00056088
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Lead (Pb)		
	88 #yrs facility discharged	
-	calc mg/L COC discharged	PAP-0056085-00056088
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Mercury (Hg)		
	88 #yrs facility discharged	
-	calc mg/L COC discharged	PAP-0056085-00056088
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
HPAHs		
	88 #yrs facility discharged	
-	calc mg/L O&G	PAP-0056085-00056088
	10% % O&G that is considered PAHs	
	60% % PAHs considered as HPAHs	
	0.18 calc mg/L HPAHs	
	3.785 L per gallon (Merck Index)	
	0.000001 kg per mg (Merck Index)	
2,347.69	calc kg COC discharged	
LPAHs		
	88 #yrs facility discharged	
-	calc mg/L O&G	PAP-0056085-00056088
	10% % O&G that is considered PAHs	
	40% % PAHs considered as LPAHs	
	0 calc mg/L LPAHs	
	3.785 L per gallon (Merck Index)	
	0.000001 kg per mg (Merck Index)	
1,565.13	calc kg COC discharged	
PCBs		
	46 #yrs facility discharged within PCBs Timeline	
-	calc mg/L COC discharged	
	3.785 L per gallon (Merck Index)	
	0.000001 kg per mg (Merck Index)	
-	calc kg COC discharged	
DDx		
	33 #yrs facility discharged within DDx Timeline	
-	calc mg/L COC discharged	
	3.785 L per gallon (Merck Index)	
	0.000001 kg per mg (Merck Index)	
-	calc kg COC discharged	
Dieldrin		
	25 #yrs facility discharged within Dieldrin Timeline	
-	calc mg/L COC discharged	
	3.785 L per gallon (Merck Index)	
	0.000001 kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxins/Furans		
	88 #yrs facility discharged	
-	calc mg/L COC discharged	
	3.785 L per gallon (Merck Index)	
	0.000001 kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxin/Furan Precursor - 2,4-D		
	29 #yrs facility discharged within 2,4-D Timeline	
-	calc mg/L COC discharged	
	3.785 L per gallon (Merck Index)	
	0.000001 kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxin/Furan Precursor - 2,4,5-T		
	30 #yrs facility discharged within 2,4,5-T Timeline	
-	calc mg/L COC discharged	
	3.785 L per gallon (Merck Index)	
	0.000001 kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxin/Furan Precursor - 2,4,6-TCP		
	25 #yrs facility discharged within 2,4,6-TCP Timeline	
-	calc mg/L COC discharged	
	3.785 L per gallon (Merck Index)	
	0.000001 kg per mg (Merck Index)	
-	calc kg COC discharged	
Summary DMassCOC for POTW:		
-	kg Copper	
-	kg Lead	
-	kg Mercury	
2,347.69	kg HPAHs	
1,565.13	kg LPAHs	
-	kg PCBs	
-	kg DDx	
-	kg Dieldrin	
-	kg Dioxins/Furans	

Discharge Calcs	Direct Discharge Information	COMMENTS/NOTES
	# hours/day discharged	1972 Waste Effluent Survey used for flow rates
	# days/week discharged	30,000,000 gallons to Storm Sewer to Passaic River
	# weeks/yr discharged	PAP-00056086,8
30,000,000	# gals/yr directly discharged	
4.08	ft; 30yr average annual precipitation per Rutgers information	
	acres	
43,560	ft ² per acre	
1886	Yr Ops started	
1974	Yr Ops ceased	
88	calc #yrs facility operated	
Copper (Cu)		
88	#yrs facility discharged	PAP-0056085-00056088
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Lead (Pb)		
88	#yrs facility discharged	PAP-0056085-00056088
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Mercury (Hg)		
88	#yrs facility discharged	PAP-0056085-00056088
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
HPAHs		
88	#yrs facility discharged	
-	calc mg/L O&G	PAP-0056085-00056088
10%	% O&G that is considered PAHs	
60%	% PAHs considered as HPAHs	
0.18	calc mg/L HPAHs	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
1,798.63	calc kg COC discharged	
LPAHs		
88	#yrs facility discharged	
-	calc mg/L O&G	PAP-0056085-00056088
10%	% O&G that is considered PAHs	
40%	% PAHs considered as LPAHs	
0.12	calc mg/L LPAHs	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
1,199.09	calc kg COC discharged	
PCBs		
46	#yrs facility discharged within PCBs Timeline	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
DDx		
33	#yrs facility discharged within DDx Timeline	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dieldrin		
25	#yrs facility discharged within Dieldrin Timeline	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxins/Furans		
88	#yrs facility discharged	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxin/Furan Precursor - 2,4-D		
29	#yrs facility discharged within 2,4-D Timeline	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxin/Furan Precursor - 2,4,5-T		
30	#yrs facility discharged within 2,4,5-T Timeline	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxin/Furan Precursor - 2,4,6-TCP		
25	#yrs facility discharged within 2,4,6-TCP Timeline	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Summary DMassCOC for Direct Discharge:		
-	kg Copper	
-	kg Lead	
-	kg Mercury	
1,798.63	kg HPAHs	
1,199.09	kg LPAHs	
-	kg PCBs	
-	kg DDx	
-	kg Dieldrin	
-	kg Dioxins/Furans	

DISCHARGE CALCULATIONS	DIRECT DISCHARGE INFORMATION	ASSUMPTIONS, REFERENCES	COMMENTS/NOTES
	4.08 FEET/YEAR AVERAGE PRECIPITATION	Long term average annual precipitation includes floods and hurricane events occurring over time.	Data from Rutgers University.
		Even with the fill events, the site is still subject to periodic flooding from the Passaic River (PAP-00054694).	
	66 ACRES - TOTAL SITE AREA (acres)	FDR, page 1; confirmed on Google Earth	The Kearny Manufacturing Facilities were approximately 58.5 acres and the Kearny Administrative Facilities were approximately 7.5 acres (PAP-00724224).
	19 ACRES - AFFECTED AREA	Exclude 46.5 acres of buildings and pavement from total 66 acre area for erosion potential (1995-2020 Google Earth aerial photos)	
	4,046.86 METERS ² /ACRE	CONVERSION TO METERS	
	76,890 METERS ² (AFFECTED AREA)		
	0.0001 METERS/YEAR (ERODED SOIL THICKNESS)	For this estimate, used a surface soil erosion rate of 0.1 mm/year, or 0.004 inches/year.	
	8 METERS ³ /YEAR (ERODED SOIL VOLUME)	VOLUME/YEAR DISCHARGED TO PASSAIC	
	1886 Year site operations began	Congoleum entities: approximately 1886 – to 1979 (PAP-00220483; PAP-00402989- 90).	
	1976 Year site was sold to Franklin Burlington Plastics	FDR page 5.	
	90 NUMBER YEARS DISCHARGE		
	692 METERS ³ (TOTAL SOIL VOLUME DISCHARGED OVER TIME)		
	2,251 KG/M ³ SOIL DENSITY	Fill material consisting of silt and clay with miscellaneous debris (PAP-00056120). Bulk density range 2002 KG/M ³ to 2499 KG/M ³ , so use average. (http://structx.com/Soil_Properties_002.html)	
	1,557,721 KILOGRAMS (TOTAL SOIL DISCHARGED OVER TIME)		
		Some of the site perimeter is located on historic fill material (FDR PDF PAGE 22-3)	
Copper (Cu)	90 YEARS DISCHARGED		
	631 MG/KG (MAX CONCENTRATION)	PAP-00056226	
	0.000001 kg per mg (Merck Index)		
	983 KILOGRAMS DISCHARGED		
Lead (Pb)		Lead may have been used in pigments as part of the production of linoleum (PAP-00233588)	
	90 YEARS DISCHARGED		
	879 MG/KG MAX CONCENTRATION)	Max concentration of lead from Table 8 (PAP-00056224)	
	0.000001 kg per mg (Merck Index)		
	1,369 KILOGRAMS DISCHARGED		

DISCHARGE CALCULATIONS	DIRECT DISCHARGE INFORMATION	ASSUMPTIONS, REFERENCES	COMMENTS/NOTES
Mercury (Hg)	90 YEARS DISCHARGED 8.8 MG/KG (MAX CONCENTRATION)	Small amounts of mercury were used as an anti-bacteria agent in floor adhesives (PAP-00233591). Max concentration of mercury from Table 8 (PAP-00056224)	
	0.000001 kg per mg (Merck Index) 14 KILOGRAMS DISCHARGED		
PAHs (listed in Benzo(a)pyrene Equivalent conversion table)	90 YEARS DISCHARGED 8.9 MG/KG (TOTAL PAH MAX CONCENTRATION)	Sum of Benzo(a)pyrene Equivalent conversion concentrations	
	0.000001 kg per mg (Merck Index) 14 KILOGRAMS DISCHARGED		
PAHs (others detected)	90 YEARS DISCHARGED 19 MG/KG (TOTAL PAH MAX CONCENTRATION)	Data below the Benzo(a)pyrene Equivalent Table LMW PAH concentration at sample HF-4(DUP) from 0.5-1.0 ft bgs (PAP-00056223)	
	0.000001 kg per mg (Merck Index) 30 KILOGRAMS DISCHARGED		
PCBs	46 YEARS DISCHARGED 481.0 MG/KG (MAX OF REPORTED CONCENTRATIONS)	Reduced discharge period to 1930-1976 (46 years) PAP-00223757	
	0.000001 kg per mg (Merck Index) 383 KILOGRAMS DISCHARGED		
DDx	90 YEARS DISCHARGED within DDx Timeline 0.000021 MG/KG (MAX CONCENTRATION)	4,4-DDD from Table 8 (PAP-00056223)	
	0.000001 kg per mg (Merck Index) 2 KILOGRAMS DISCHARGED		
Dieldrin	90 YEARS DISCHARGED within Dieldrin Timeline MG/KG (MAX CONCENTRATION)	NONE REPORTED	
	0.000001 kg per mg (Merck Index) 0 KILOGRAMS DISCHARGED		
Dioxins/Furans	90 YEARS DISCHARGED MG/KG (MAX CONCENTRATION)	NONE REPORTED	
	0.000001 kg per mg (Merck Index) 0 KILOGRAMS DISCHARGED		
SUMMARY CMASS ESTIMATES:			
982.92 kg Copper			
1,369.24 kg Lead			
13.71 kg Mercury			
13.87 kg PAHs (Benzo(a)pyrene Equivalent)			
29.74 kg PAHs (Other)			
382.96 kg PCBs			
1.56 kg DDx			
0.00 kg Dieldrin			
0.00 kg Dioxins/Furans			
2793.99 TOTAL MASS (KG) DISCHARGED FROM SURFACE SOIL			

	Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Results from sample F-4 collected at 5.5-6 FT (FDR page 23, PAP-00231557)	Benzo(a)pyrene	7.200	1.0	7.2000
	Benzo(a)anthracene	6.800	0.1	0.6800
	Benzo(b)fluoranthene	6.000	0.1	0.6000
	Benzo(k)fluoranthene	6.500	0.01	0.0650
	Chrysene	8.100	0.001	0.0081
	Dibenz(a,h)anthracene	0.000	1.0	0.0000
	Indeno(1,2,3-cd)pyrene	3.500	0.1	0.3500
DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg				
Total Benzo(a)pyrene Equivalents =				8.9

Sample MW33-004 (PAS-00088281-2)	
Anthracene	2.9
Acenaphthene	1.3
Acenaphthylene	0.13
Fluorene	1.2
Naphthalene	0.32
Phenanthrene	13
2-methylnaphthalene	0.24
SUM	19.09

Facility Base Scores, Culpability Factor, Cooperation Factor and Adjusted Base Scores - Protocol Calculation

Congoleum Corp.

195 Belgrove Drive		Kearny	NJ	07032			
Facility BS	CUF	CUF_Category	CUF_NOTES		COF	COF_NOTES	Facillty Adjusted BS
1.946E-3	5.0%	Occasional Noncompliance	Poor housekeeping identified in the 1950s during an inspection (fire hazards noted, oil dumped in the weeds) (PAP-00056081). In April 1990 three areas of abandoned drums in poor condition were discovered along the Passaic River, and solidified sludge from a vinyl tile manufacturing process was observed on the property (PAP-00337307; PAP-00054201-02). Congoleum employees had heard stories over the years had stated “scrap vinyl may have been buried on some portions of the Kearny Facility” (PAS-00104956; PAS-00104961). On or about August 19, 1943, during World War II, there was an explosion at the Kearny Facility. (PAP-00233575). According to an October 18, 1943, memo to the Kearny Fire Department the explosion occurred at Building No. 12 in the Number 6 stove, as a result of an explosion of vapors of Sovosol No. 5 used as a solvent for the paint used in the treating of camouflage nets (PAP-00232310).		-20.0%	-20% CPG/SPG member - Continuous provision of funding and participation in PRP Group(s) actions to cooperate with governmental/regulatory entities to address environmental or public harm created by own activities	1.654E-3

AP_ABS

1.654E-3

Facility Base Scores, Culpability Factor, Cooperation Factor and Adjusted Base Scores - Allocation Calculation

Congoleum Corp.

195 Belgrove Drive	Kearny	NJ	07032
--------------------	--------	----	-------

Facility BS	CUF	CUF_Category	CUF_NOTES	COF	COF_NOTES	Facillty Adjusted BS
2.520E-1	5.0%	Occasional Noncompliance	Poor housekeeping identified in the 1950s during an inspection (fire hazards noted, oil dumped in the weeds) (PAP-00056081). In April 1990 three areas of abandoned drums in poor condition were discovered along the Passaic River, and solidified sludge from a vinyl tile manufacturing process was observed on the property (PAP-00337307; PAP-00054201-02). Congoleum employees had heard stories over the years had stated “scrap vinyl may have been buried on some portions of the Kearny Facility” (PAS-00104956; PAS-00104961). On or about August 19, 1943, during World War II, there was an explosion at the Kearny Facility. (PAP-00233575). According to an October 18, 1943, memo to the Kearny Fire Department the explosion occurred at Building No. 12 in the Number 6 stove, as a result of an explosion of vapors of Sovosol No. 5 used as a solvent for the paint used in the treating of camouflage nets (PAP-00232310).	-20.0%	-20% CPG/SPG member - Continuous provision of funding and participation in PRP Group(s) actions to cooperate with governmental/regulatory entities to address environmental or public harm created by own activities	2.142E-1

AP_ABS	2.142E-1
--------	----------

Allocator's Determinations Regarding Legal Defenses Raised by Allocation Parties

CONGOLEUM

Congoleum argues that the current Congoleum never owned and/or operated the Kearny Manufacturing Facilities property that is the subject of this OU2 Allocation proceeding and Current Congoleum is not the successor to any entity or business which did own and/or operate the Kearny Manufacturing Facilities. Accordingly, pursuant to Step 2(d)(9) of the Allocation Protocol, Current Congoleum submits that these facts establish a complete defense to liability for alleged discharges from the Kearny Facility.

ALLOCATOR'S DETERMINATION – Congoleum states a credible argument regarding the timing of its purchase of assets from its predecessor and the sale of the Kearny Manufacturing facility. However, uncertainties regarding the evolution of the corporation and its predecessor and its use of Kearny facility property raise doubts about its ability to prevail in an action to overturn EPA's determination of Congoleum as a PRP based on the supplied information. Though the Allocator presumes a substantial chance of success should this matter go to litigation, we leave this matter as a topic for settlement discussions between Congoleum and EPA.

Allocation Facility Cmass Calculation

Conopco, Inc.	540 New York Avenue	Lyndhurst	NJ	07071
---------------	---------------------	-----------	----	-------

Constituent Of Concern (COC)	Overland, Fate & Transport C%	Dmass Overland, Fate & Transport	PrePVSC C%	Dmass PrePVSC	PVSC C%	Dmass PVSC	Direct Discharge C%	Dmass Direct Discharge	COC Total Pathway Cmass	COC A%	COC Historic CMass
Copper	100.00%	40.44	100.00%	-	2.32%	79,883.53	100.00%	-	1,893.74	1.018817E-2	19.29
Lead	100.00%	218.21	100.00%	-	2.32%	1,656.12	100.00%	-	256.63	1.018817E-2	2.61
Mercury	100.00%	4.	100.00%	-	2.32%	9.74	100.00%	-	4.23	1.018817E-2	0.04
HPAHs	100.00%	150.66	100.00%	-	2.32%	10,209.51	100.00%	983.1	1,370.66	1.018817E-2	13.96
LPAHs	100.00%	849.6	100.00%	-	2.32%	6,806.34	100.00%	655.4	1,662.93	1.018817E-2	16.94
PCBs	100.00%	0.12	100.00%	-	2.32%	-	100.00%	-	0.12	1.018817E-2	0
DDx	100.00%	88.48	100.00%	-	2.32%	-	100.00%	-	88.48	1.018817E-2	0.9
Dieldrin	100.00%	0.02	100.00%	-	2.32%	-	100.00%	-	0.02	1.018817E-2	0
Dioxins_Furans	100.00%	-	100.00%	-	2.32%	-	100.00%	-	0	1.018817E-2	0

Conopco, Inc.

540 New York Avenue

Lyndhurst

NJ

07071

Constituent Of Concern (COC)	Relative Risk Number (RRN)	Total Mass (Tmass)	COC Historic CMass	COC Relative Contribution	COC Base Score
Copper	0.69	2,100,000.00	19.29	9.187E-6	6.339E-6
Lead	0.01	3,200,000.00	2.61	8.171E-7	8.171E-9
Mercury	0.95	42,000.00	0.04	1.025E-6	9.739E-7
HPAHs	0.05	240,000.00	13.96	5.819E-5	2.909E-6
LPAHs	0.01	170,000.00	16.94	9.966E-5	9.966E-7
PCBs	12.87	26,000.00	0	4.702E-8	6.052E-7
DDx	1.37	27,000.00	0.9	3.339E-5	4.574E-5
Dieldrin	0.13	390.00	0	5.225E-7	6.792E-8
Dioxins_Furans	83.92	38.00	0	0	0

Allocation Facility COC Base Scores - Alternative Calulcation

Conopco, Inc.	540 New York Avenue	Lyndhurst	NJ	07071
---------------	---------------------	-----------	----	-------

Constituent Of Concern (COC)	Relative Risk Number (RRN)	Total Mass (Tmass)	Total Cmass (TCmass)	Total OS COC ACmass	COC %	COC Historic CMass	Facility OS COC Cmass	COC Relative Responsibility	COC Base Score
Copper	0.69	2,100,000.00	276,960.25	2,097,178.28	6.838E-3	19.29	14,339.62	6.838E-3	4.718E-3
Lead	0.01	3,200,000.00	288,577.67	3,197,059.92	8.893E-4	2.61	2,843.14	8.893E-4	8.893E-6
Mercury	0.95	42,000.00	4,322.53	41,955.96	9.777E-4	0.04	41.02	9.777E-4	9.288E-4
HPAHs	0.05	240,000.00	4,346,388.50	195,718.24	3.154E-4	13.96	61.72	3.154E-4	1.577E-5
LPAHs	0.01	170,000.00	3,012,835.14	139,304.72	5.519E-4	16.94	76.89	5.519E-4	5.519E-6
PCBs	12.87	26,000.00	20,066.54	25,795.56	5.980E-6	0	0.15	5.980E-6	7.696E-5
DDx	1.37	27,000.00	2,516.93	26,974.36	3.515E-2	0.9	948.25	3.515E-2	4.816E-2
Dieldrin	0.13	390.00	1.27	389.99	1.580E-2	0	6.16	1.580E-2	2.054E-3
Dioxins_Furans	83.92	38.00	3,729.82	0.00	0	0	0	0	0

Facility Bypass Information

Conopco, Inc.	540 New York Avenue	Lyndhurst	NJ	07071
---------------	---------------------	-----------	----	-------

Item	Bypass Name	Bypass Type	Time %	Flow %	Bypass Notes
1	Yantacaw	Bypass	2.32%	100.00%	

Discharge Calcs	POTW Discharge Information	COMMENTS/NOTES
	gal discharged per day/week/month	No data Conopco, using Goodrich and Purdue as a similar operation
	# hours/per day discharged	
	#days/week discharged	
	#weeks/yr discharged	
114,391,833	calc gal/yr discharge (FDR)	
365	#day per yr operated (FDR) (
1941	Yr Ops started (FDR)	
1986	Yr Ops ceased (FDR)	
45	calc #yrs facility operated	
Copper (Cu)		
45	#yrs facility discharged	
4.10	calc mg/L COC discharged	Based on Goodrich
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
79,884	calc kg COC discharged	
Lead (Pb)		
45	#yrs facility discharged	Based on Purdue
0.085	calc mg/L COC discharged; (FDR) PAP00128020	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
1,656.12	calc kg COC discharged	
Mercury (Hg)		
45	#yrs facility discharged	
0.0005	calc mg/L COC discharged; (FDR)	Based on Goodrich
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
9.74	calc kg COC discharged	
HPAHs		
45	#yrs facility discharged	
8.7	calc mg/L O&G (FDR)	Based on Goodrich
10%	% O&G that is considered PAHs	
60%	% PAHs considered as HPAHs	
0.52	calc mg/L HPAHs	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
10,210	calc kg COC discharged	
LPAHs		
45	#yrs facility discharged	
8.7	calc mg/L O&G (FDR)	Based on Goodrich
10%	% O&G that is considered PAHs	
40%	% PAHs considered as LPAHs	
0.35	calc mg/L LPAHs	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
6,806	calc kg COC discharged	
PCBs		
37	#yrs facility discharged within PCBs Timeline	
	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
DDx		
32	#yrs facility discharged within DDx Timeline	
	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dieldrin		
37	#yrs facility discharged within Dieldrin Timeline	
	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxins/Furans		
45	#yrs facility discharged	
	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxin/Furan Precursor - 2,4-D		
41	#yrs facility discharged within 2,4-D Timeline	
	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxin/Furan Precursor - 2,4,5-T		
41	#yrs facility discharged within 2,4,5-T Timeline	
	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxin/Furan Precursor - 2,4,6-TCP		
26	#yrs facility discharged within 2,4,6-TCP Timeline	
	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Summary DMassCOC for POTW:		
79,884	kg Copper	
1,656	kg Lead	
10	kg Mercury	
10,210	kg HPAHs	
6,806	kg LPAHs	
-	kg PCBs	
-	kg DDx	
-	kg Dieldrin	
-	kg Dioxins/Furans	

Discharge Calcs	Direct Discharge Information	COMMENTS/NOTES
	# hours/day discharged	No information using Goodrich and Purdue as similar operations
	# days/week discharged	
	# weeks/yr discharged	
481,009,150	# gals/yr directly discharged	
4.08	ft; 30yr average annual precipitation per Rutgers information	
	acres	
43,560	ft ² per acre	
365	#day operated per yr (PAP-00206119, PAP-00433684)	
1941	Yr Ops started	
1986	Yr Ops ceased	
45	calc #yrs facility operated	
Copper (Cu)		
45	#yrs facility discharged	
	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Lead (Pb)		
45	#yrs facility discharged	
	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Mercury (Hg)		
45	#yrs facility discharged	
	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
HPAHs		
45	#yrs facility discharged	
0.2	calc mg/L O&G discharged (PAP-00206137)	special calcs to use PAHs to determine PAH mass discharged via outside catch basins
10%	% PAHs assumed in O&G	
60%	% PAHs assumed in HPAHs	
0.01	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
983.13	calc kg COC discharged	
LPAHs		
45	#yrs facility discharged	
0.2	calc mg/L O&G discharged (PAP-00206137)	special calcs to use PAHs to determine PAH mass discharged via outside catch basins
10%	% PAHs assumed in O&G	
40%	% PAHs assumed in LPAHs	
0.01	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
655.42	calc kg COC discharged	
PCBs		
37	#yrs facility discharged within PCBs Timeline	
	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
DDx		
32	#yrs facility discharged within DDx Timeline	
	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dieldrin		
37	#yrs facility discharged within Dieldrin Timeline	
	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxins/Furans		
45	#yrs facility discharged	
	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxin/Furan Precursor - 2,4-D		
41	#yrs facility discharged within 2,4-D Timeline	
	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxin/Furan Precursor - 2,4,5-T		
41	#yrs facility discharged within 2,4,5-T Timeline	
	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxin/Furan Precursor - 2,4,6-TCP		
26	#yrs facility discharged within 2,4,6-TCP Timeline	
	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Summary DMassCOC for Direct Discharge:		
-	kg Copper	
-	kg Lead	
-	kg Mercury	
983	kg HPAHs	
655	kg LPAHs	
-	kg PCBs	

-	kg DDX	
-	kg Dieldrin	
-	kg Dioxins/Furans	

Discharge Calcs	Direct Discharge Information	ASSUMPTIONS, REFERENCES	COMMENTS/NOTES
	4.08 FEET/YEAR AVERAGE PRECIPITATION	Long term average annual precipitation includes floods and hurricane events occurring over time.	Data from Rutgers University.
	17 ACRES - TOTAL SITE AREA (acres) 6 ACRES - AFFECTED AREA	90 percent of site was covered with impervious material and 40 percent was buildings (FDR Page 24, PAS-00113240). Estimate 20 years (1941-1961) 40 percent buildings without asphalt, 25 years 90 percent impervious with buildings = 5.6 acres	
	4,046.86 METERS ² /ACRE		
	22,662 METERS ² (AFFECTED AREA)		
	0.0001 METERS/YEAR (ERODED SOIL THICKNESS)	For this estimate, used a surface soil erosion rate of 0.1 mm/year, or 0.004 inches/year.	
	2 METERS ³ /YEAR (ERODED SOIL VOLUME)	VOLUME/YEAR DISCHARGED TO PASSAIC RIVER	
	1941 Year site operations began 1986 Year site processing and storage operations ceased	FDR page 2 PAS-00113112, 2741, 3149; PAP-00048761 FDR page 2 PAS-00113112, 2741, 3149; PAP-00048761	
	45 NUMBER YEARS DISCHARGE	Conopco liability 45 years, 1941 to 1986 (FDR, page 2)	
	102 METERS ³ (TOTAL SOIL VOLUME DISCHARGED OVER TIME)		
	1,963 KG/M ³ SOIL DENSITY	Fill reported as fine to medium sand with trace gravel (PAS-00113242). Bulk density range for silty sand and gravel 1442 KG/M ³ to 2483 KG/M ³ , so use average. (http://structx.com/Soil_Properties_002.html)	
	200,188 KILOGRAMS (TOTAL SOIL DISCHARGED OVER TIME)		
		Facility is partially located on historic fill (FDR, page 15)	
Copper (Cu)	45 YEARS DISCHARGED 202 MG/KG (MAX CONCENTRATION)		Copper concentration in on-site surface soil sample TSA-5 (PAS-00113344).
	0.000001 kg per mg (Merck Index) 40 KILOGRAMS DISCHARGED		
Lead (Pb)	45 YEARS DISCHARGED 1090 MG/KG (MAX CONCENTRATION)		Lead concentration in on-site soil sample OPA-29 (PAS-00113345, depth unknown).
	0.000001 kg per mg (Merck Index) 218 KILOGRAMS DISCHARGED		
Mercury (Hg)	45 YEARS DISCHARGED 20.0 MG/KG (MAX CONCENTRATION)		Mercury concentration in on-site soil sample OPA-37 (PAS-00113284, depth unknown).
	0.000001 kg per mg (Merck Index) 4 KILOGRAMS DISCHARGED		

PAHs (listed in Benzo(a)pyrene Equivalent conversion table)	
45 YEARS DISCHARGED	
752.6 MG/KG (TOTAL PAH AVERAGE CONCENTRATION)	
0.000001 kg per mg (Merck Index)	
151 KILOGRAMS DISCHARGED	
PAHs (others detected)	
45 YEARS DISCHARGED	
4244 MG/KG (TOTAL PAH MAX CONCENTRATION)	
0.000001 kg per mg (Merck Index)	
850 KILOGRAMS DISCHARGED	
PCBs	
45 YEARS DISCHARGED	
0.62 MG/KG (MAX CONCENTRATION)	
0.000001 kg per mg (Merck Index)	
0 KILOGRAMS DISCHARGED	
DDx	
45 YEARS DISCHARGED within DDx Timeline	
442 MG/KG (MAX CONCENTRATION SUM)	
3.785 L per gallon (Merck Index)	
0.000001 kg per mg (Merck Index)	
88 KILOGRAMS DISCHARGED	
Dieldrin	
45 NONE FOUND IN AVAILABLE DOCUMENTATION	
0.1 MG/KG (MAX CONCENTRATION)	
3.785 L per gallon (Merck Index)	
0.000001 kg per mg (Merck Index)	
0.02 KILOGRAMS DISCHARGED	
Dioxins/Furans	NONE FOUND IN AVAILABLE DOCUMENTATION
0 YEARS DISCHARGED	
0 MG/KG (MAX CONCENTRATION)	
0.000001 kg per mg (Merck Index)	
0 calc kg COC discharged	
SUMMARY CMASS ESTIMATES:	
40.44 kg Copper	
218.21 kg Lead	
4.00 kg Mercury	
150.66 kg PAHs (Benzo(a)pyrene Equivalent)	
849.60 kg PAHs (Other)	
0.12 kg PCBs	
88.48 kg DDx	
0.02 kg Dieldrin	
0.00 kg Dioxins/Furans	
1351.53 MASS (KG) DISCHARGED FROM SURFACE SOIL	

Total concentration of PAH compounds for Benzo(a)pyrene Equivalent
<https://floridadep.gov/waste/petroleum-restoration/documents/benzo-pyrene-equivalents-conversion-table-one-sample>.

Sum of Benzo(a)pyrene Equivalent conversion concentrations using Deed Restriction maximum concentrations found in surface soil sample LB-33 (0-0.5 ft bgs) (PAS-00113306).

Other PAHs = Acenaphthene = 130, Acenaphthylene = 65, Anthracene = 420,Fluorene = 250, Fluoranthene = 1200, Naphthalene = 39, Phenanthrene = 1200, Pyrene = 940 (mg/kg) (PAS-00113306)

Used PAH concentrations documented in sample LB-33 (0-0.5 ft bgs) (PAS-00113306).	Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
	Benzo(a)pyrene	480.000	1.0	480.0000
	Benzo(a)anthracene	840.000	0.1	84.0000
	Benzo(b)fluoranthene	770.000	0.1	77.0000
	Benzo(k)fluoranthene	0.000	0.01	0.0000
	Chrysene	580.000	0.001	0.5800
	Dibenz(a,h)anthracene	83.000	1.0	83.0000
	Indeno(1,2,3-cd)pyrene	280.000	0.1	28.0000
	DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg			
	Total Benzo(a)pyrene Equivalents =			752.6

Maximum surface soil concentration found in surface soil (0-3 ft bgs) (PAP-00328282).

DDT use began in 1940s - assume present between 1941 and 1986
DDD and DDT concentrations from INI4-2 (1 foot bgs) (PAS-00113127)

Maximum surface soil concentration found in soil (2-2.5 ft bgs) (PAP-00328282).

Conopco, Inc.

540 New York Avenue		Lyndhurst	NJ	07071			
Facility BS	CUF	CUF_Category	CUF_NOTES		COF	COF_NOTES	Facility Adjusted BS
5.764E-5	10.0%	Periodic Noncompliacne	The PVSC documented discharges of unknown off-color materials in the storm sewer that were traced to be coming from the facility in 1947, 1948, 1956, 1970-1971, 1974, 1976, 1977, and 1978. Several of these were noted as violations (see Section 6 of Data Report). An October 23, 1990, Progress Report on Cleanup of South Drainage Trench referred to notices of violations Penco of Lyndhurst received concerning unpermitted discharges to the storm sewer and from the drainage ditch (PAS-00113370, 372-73). According to the PVSC Weekly Summary of Inspections by Inspector, on May 3, 1956, inspection of the Lyndhurst storm sewer showed a jet black discharge into the Passaic River that had killed a number of small fish. In May [1977], suppression of a fire on para-nitrophenol (PNP) pallets washed PNP into the storm sewer (PAS-00112802). Many of the chemicals were stored in above- and below-ground tanks and in 55-gallon drums in various locations. Prior to construction Buildings 38 and 39, the area occupied by Building 39 was used for storage of solvents in drums. Infrequently, materials were spilled or drums ruptured. (see FDR p. 6)		-20.0%	-20% CPG/SPG member - Continuous provision of funding and participation in PRP Group(s) actions to cooperate with governmental/regulatory entities to address environmental or public harm created by own activities	5.188E-5

Conopco, Inc.

540 New York Avenue		Lyndhurst	NJ	07071			
Facility BS	CUF	CUF_Category	CUF_NOTES		COF	COF_NOTES	Facility Adjusted BS
5.597E-2	10.0%	Periodic Noncompliacne	The PVSC documented discharges of unknown off-color materials in the storm sewer that were traced to be coming from the facility in 1947, 1948, 1956, 1970-1971, 1974, 1976, 1977, and 1978. Several of these were noted as violations (see Section 6 of Data Report). An October 23, 1990, Progress Report on Cleanup of South Drainage Trench referred to notices of violations Penco of Lyndhurst received concerning unpermitted discharges to the storm sewer and from the drainage ditch (PAS-00113370, 372-73). According to the PVSC Weekly Summary of Inspections by Inspector, on May 3, 1956, inspection of the Lyndhurst storm sewer showed a jet black discharge into the Passaic River that had killed a number of small fish. In May [1977], suppression of a fire on para-nitrophenol (PNP) pallets washed PNP into the storm sewer (PAS-00112802). Many of the chemicals were stored in above- and below-ground tanks and in 55-gallon drums in various locations. Prior to construction Buildings 38 and 39, the area occupied by Building 39 was used for storage of solvents in drums. Infrequently, materials were spilled or drums ruptured. (see FDR p. 6)		-20.0%	-20% CPG/SPG member - Continuous provision of funding and participation in PRP Group(s) actions to cooperate with governmental/regulatory entities to address environmental or public harm created by own activities	5.037E-2
							AP_ABS
							5.037E-2

Allocation Facility Cmass Calculation

Cooper Industries LLC	7, 13, & 26 Bank Street	Newark	NJ	07102
-----------------------	-------------------------	--------	----	-------

Constituent Of Concern (COC)	Overland, Fate & Transport C%	Dmass Overland, Fate & Transport	PrePVSC C%	Dmass PrePVSC	PVSC C%	Dmass PVSC	Direct Discharge C%	Dmass Direct Discharge	COC Total Pathway Cmass	COC A%	COC Historic CMass
Copper	100.00%	-	100.00%	-	100.00%	-	100.00%	-	0	1.018817E-2	0
Lead	100.00%	-	100.00%	-	100.00%	-	100.00%	0.6	0.58	1.018817E-2	0.01
Mercury	100.00%	-	100.00%	-	100.00%	-	100.00%	-	0	1.018817E-2	0
HPAHs	100.00%	-	100.00%	-	100.00%	-	100.00%	-	0	1.018817E-2	0
LPAHs	100.00%	-	100.00%	-	100.00%	-	100.00%	-	0	1.018817E-2	0
PCBs	100.00%	-	100.00%	-	100.00%	-	100.00%	-	0	1.018817E-2	0
DDx	100.00%	-	100.00%	-	100.00%	-	100.00%	-	0	1.018817E-2	0
Dieldrin	100.00%	-	100.00%	-	100.00%	-	100.00%	-	0	1.018817E-2	0
Dioxins_Furans	100.00%	-	100.00%	-	100.00%	-	100.00%	-	0	1.018817E-2	0

Cooper Industries LLC

7, 13, & 26 Bank Street

Newark

NJ

07102

Constituent Of Concern (COC)	Relative Risk Number (RRN)	Total Mass (Tmass)	COC Historic CMass	COC Relative Contribution	COC Base Score
Copper	0.69	2,100,000.00	0	0	0
Lead	0.01	3,200,000.00	0.01	1.838E-9	1.838E-11
Mercury	0.95	42,000.00	0	0	0
HPAHs	0.05	240,000.00	0	0	0
LPAHs	0.01	170,000.00	0	0	0
PCBs	12.87	26,000.00	0	0	0
DDx	1.37	27,000.00	0	0	0
Dieldrin	0.13	390.00	0	0	0
Dioxins_Furans	83.92	38.00	0	0	0

Allocation Facility COC Base Scores - Alternative Calulcation

Cooper Industries LLC	7, 13, & 26 Bank Street	Newark	NJ	07102
-----------------------	-------------------------	--------	----	-------

Constituent Of Concern (COC)	Relative Risk Number (RRN)	Total Mass (Tmass)	Total Cmass (TCmass)	Total OS COC ACmass	COC %	COC Historic CMass	Facility OS COC Cmass	COC Relative Responsibility	COC Base Score
Copper	0.69	2,100,000.00	276,960.25	2,097,178.28	0	0	0	0	0
Lead	0.01	3,200,000.00	288,577.67	3,197,059.92	2.000E-6	0.01	6.39	2.000E-6	2.000E-8
Mercury	0.95	42,000.00	4,322.53	41,955.96	0	0	0	0	0
HPAHs	0.05	240,000.00	4,346,388.50	195,718.24	0	0	0	0	0
LPAHs	0.01	170,000.00	3,012,835.14	139,304.72	0	0	0	0	0
PCBs	12.87	26,000.00	20,066.54	25,795.56	0	0	0	0	0
DDx	1.37	27,000.00	2,516.93	26,974.36	0	0	0	0	0
Dieldrin	0.13	390.00	1.27	389.99	0	0	0	0	0
Dioxins_Furans	83.92	38.00	3,729.82	0.00	0	0	0	0	0

Facility Bypass Information

Cooper Industries LLC	7, 13, & 26 Bank Street	Newark	NJ	07102
-----------------------	-------------------------	--------	----	-------

Item	Bypass Name	Bypass Type	Time %	Flow %	Bypass Notes
1	Passaic River		100.00%	100.00%	Facility operation prior to PVSC (1924)

Discharge Calcs	Direct Discharge Information		COMMENTS/NOTES
	# hours/day discharged		No information on discharges - estimating entirely based on Cooper Littleton ave
	# days/week discharged		Sheer and Scissors manufacturer
	# weeks/yr discharged		J Wiss and Sons operator, sold to Cooper but Cooper states they are not the legal successor to any
	# gals/yr directly discharged		CERCLA liabilities associated with Bank Street. FDR pages 5-6
	5,200		
	4.08	ft; 30yr average annual precipitation per Rutgers information	
		acres	
	43,560	ft2 per acre	
		acres	
	50%	Percent Precip to River	
	1848	Yr Ops started	
	1887	Yr Ops ceased	
	39	calc #yrs facility operated	
Copper (Cu)			
	39	#yrs facility discharged	Based on Cooper Littleton Ave
	-	calc mg/L COC discharged	FDR Page 5
	3.785	L per gallon (Merck Index)	
	0.000001	kg per mg (Merck Index)	
	-	calc kg COC discharged	
Lead (Pb)			
	39	#yrs facility discharged	Based on Cooper Littleton Ave
	0.752	calc mg/L COC discharged	Lead may have been present FDR Page 5
	3.785	L per gallon (Merck Index)	
	0.000001	kg per mg (Merck Index)	
	0.58	calc kg COC discharged	
Mercury (Hg)			
	39	#yrs facility discharged	Based on Cooper Littleton Ave
	-	calc mg/L COC discharged	FDR Page 5
	3.785	L per gallon (Merck Index)	
	0.000001	kg per mg (Merck Index)	
	-	calc kg COC discharged	
HPAHs			
	39	#yrs facility discharged	
	-	calc mg/L O&G	
	10%	% O&G that is considered PAHs	
	60%	% COC in O&G considered as PAHs	
	-	calc mg/L HPAHs	
	3.785	L per gallon (Merck Index)	
	0.000001	kg per mg (Merck Index)	
	-	calc kg COC discharged	
LPAHs			
	39	#yrs facility discharged	
	-	calc mg/L O&G	
	10%	% O&G that is considered PAHs	
	40%	% COC in O&G considered as PAHs	
	-	calc mg/L LPAHs	
	3.785	L per gallon (Merck Index)	
	0.000001	kg per mg (Merck Index)	
	-	calc kg COC discharged	
PCBs			
	39	#yrs facility discharged within PCBs Timeline	
	-	calc mg/L COC discharged	
	3.785	L per gallon (Merck Index)	
	0.000001	kg per mg (Merck Index)	
	-	calc kg COC discharged	
DDx			
	39	#yrs facility discharged within DDx Timeline	
	-	calc mg/L COC discharged	
	3.785	L per gallon (Merck Index)	
	0.000001	kg per mg (Merck Index)	
	-	calc kg COC discharged	
Dieldrin			
	39	#yrs facility discharged within Dieldrin Timeline	
	-	calc mg/L COC discharged	
	3.785	L per gallon (Merck Index)	
	0.000001	kg per mg (Merck Index)	
	-	calc kg COC discharged	
Dioxins/Furans			
	39	#yrs facility discharged	
	-	calc mg/L COC discharged	
	3.785	L per gallon (Merck Index)	
	0.000001	kg per mg (Merck Index)	
	-	calc kg COC discharged	
Dioxin/Furan Precursor - 2,4-D			
	39	#yrs facility discharged within 2,4-D Timeline	
	-	calc mg/L COC discharged	
	3.785	L per gallon (Merck Index)	
	0.000001	kg per mg (Merck Index)	
	-	calc kg COC discharged	
Dioxin/Furan Precursor - 2,4,5-T			
	39	#yrs facility discharged within 2,4,5-T Timeline	
	-	calc mg/L COC discharged	
	3.785	L per gallon (Merck Index)	
	0.000001	kg per mg (Merck Index)	
	-	calc kg COC discharged	
Dioxin/Furan Precursor - 2,4,6-TCP			
	39	#yrs facility discharged within 2,4,6-TCP Timeline	
	-	calc mg/L COC discharged	
	3.785	L per gallon (Merck Index)	
	0.000001	kg per mg (Merck Index)	
	-	calc kg COC discharged	
Summary DMassCOC for Direct Discharge:			
	-	kg Copper	
	0.58	kg Lead	
	-	kg Mercury	
	-	kg HPAHs	
	-	kg LPAHs	
	-	kg PCBs	
	-	kg DDx	
	-	kg Dieldrin	
	-	kg Dioxins/Furans	

Allocation Facility Cmass Calculation

Cooper Industries LLC	33 Littleton Avenue	Newark	NJ	07107
-----------------------	---------------------	--------	----	-------

Constituent Of Concern (COC)	Overland, Fate & Transport C%	Dmass Overland, Fate & Transport	PrePVSC C%	Dmass PrePVSC	PVSC C%	Dmass PVSC	Direct Discharge C%	Dmass Direct Discharge	COC Total Pathway Cmass	COC A%	COC Historic CMass
Copper	100.00%	-	100.00%	-	13.00%	10.54	100.00%	-	1.37	1.018817E-2	0.01
Lead	100.00%	-	100.00%	-	13.00%	566.42	100.00%	-	73.65	1.018817E-2	0.75
Mercury	100.00%	-	100.00%	-	13.00%	29.81	100.00%	-	3.88	1.018817E-2	0.04
HPAHs	100.00%	-	100.00%	-	13.00%	-	100.00%	-	0	1.018817E-2	0
LPAHs	100.00%	-	100.00%	-	13.00%	-	100.00%	-	0	1.018817E-2	0
PCBs	100.00%	-	100.00%	-	13.00%	-	100.00%	-	0	1.018817E-2	0
DDx	100.00%	-	100.00%	-	13.00%	-	100.00%	-	0	1.018817E-2	0
Dieldrin	100.00%	-	100.00%	-	13.00%	-	100.00%	-	0	1.018817E-2	0
Dioxins_Furans	100.00%	-	100.00%	-	13.00%	-	100.00%	-	0	1.018817E-2	0

Cooper Industries LLC

33 Littleton Avenue

Newark

NJ

07107

Constituent Of Concern (COC)	Relative Risk Number (RRN)	Total Mass (Tmass)	COC Historic CMass	COC Relative Contribution	COC Base Score
Copper	0.69	2,100,000.00	0.01	6.648E-9	4.587E-9
Lead	0.01	3,200,000.00	0.75	2.345E-7	2.345E-9
Mercury	0.95	42,000.00	0.04	9.402E-7	8.932E-7
HPAHs	0.05	240,000.00	0	0	0
LPAHs	0.01	170,000.00	0	0	0
PCBs	12.87	26,000.00	0	0	0
DDx	1.37	27,000.00	0	0	0
Dieldrin	0.13	390.00	0	0	0
Dioxins_Furans	83.92	38.00	0	0	0

Cooper Industries LLC	33 Littleton Avenue	Newark	NJ	07107
-----------------------	---------------------	--------	----	-------

Constituent Of Concern (COC)	Relative Risk Number (RRN)	Total Mass (Tmass)	Total Cmass (TCmass)	Total OS COC ACmass	COC %	COC Historic CMass	Facility OS COC Cmass	COC Relative Responsibility	COC Base Score
Copper	0.69	2,100,000.00	276,960.25	2,097,178.28	4.948E-6	0.01	10.38	4.948E-6	3.414E-6
Lead	0.01	3,200,000.00	288,577.67	3,197,059.92	2.552E-4	0.75	815.91	2.552E-4	2.552E-6
Mercury	0.95	42,000.00	4,322.53	41,955.96	8.967E-4	0.04	37.62	8.967E-4	8.519E-4
HPAHs	0.05	240,000.00	4,346,388.50	195,718.24	0	0	0	0	0
LPAHs	0.01	170,000.00	3,012,835.14	139,304.72	0	0	0	0	0
PCBs	12.87	26,000.00	20,066.54	25,795.56	0	0	0	0	0
DDx	1.37	27,000.00	2,516.93	26,974.36	0	0	0	0	0
Dieldrin	0.13	390.00	1.27	389.99	0	0	0	0	0
Dioxins_Furans	83.92	38.00	3,729.82	0.00	0	0	0	0	0

Facility Bypass Information

Cooper Industries LLC	33 Littleton Avenue	Newark	NJ	07107
-----------------------	---------------------	--------	----	-------

Item	Bypass Name	Bypass Type	Time %	Flow %	Bypass Notes
1	Clay St	CSO	0.90%	41.36%	
2	Clay St	Bypass	12.63%	100.00%	

Discharge Calcs	POTW Discharge Information	COMMENTS/NOTES
	gal discharged per day/week/month	PVSC Sewer Permit No. 20400752 (PAP-0004752)
8-16 hrs/day	# hours/per day discharged	Sanitary and wastewaters to combined sewer, no way for direct discharge to river.
	5 #days/week discharged	
	52 #weeks/yr discharged	
	22,098,798 calc gal/yr discharge	1977 Semi Annual Report = 50000 gpd (PAS-00027647.50), including data from 1981-1985
		1978 PVSC Ind Wastewater Questionnaire (PAS-00000743) = 32403360 gallons
	1976 Yr Ops started	1980 PVSC Sewer Connection Permit App = 183327 gpd (PAP-00332124)
	1985 Yr Ops ceased	1980 0.1320 MGD (PAS-00027508,681)
	9 calc #yrs facility operated	December 1, 1976 through December 1985
Copper (Cu)		
	9 #yrs facility discharged	1980 PVSC Sewer App = 0.236 mg/l
	0.014 calc mg/L COC discharged	Background CU concentration in Source Water 0.222 mg/l
	3.785 L per gallon (Merck Index)	
	0.000001 kg per mg (Merck Index)	
	10.54 calc kg COC discharged	
Lead (Pb)		
	9 #yrs facility discharged	
	0.752 calc mg/L COC discharged	1980 PVSC Sewer Connection App; PB = .284, .482 and .457 mg/l
	3.785 L per gallon (Merck Index)	1980 sampling 2.56 mg/l
	0.000001 kg per mg (Merck Index)	1981 PVSC Sewer Connection App; 0.042 mg/l Pb
	566.42 calc kg COC discharged	
Mercury (Hg)		
	9 #yrs facility discharged	1980 PVSC Sewer Connection App; Hg = .045, .116, and .037 mg/l
	0.0396 calc mg/L COC discharged	June 1981 ND, and 48 hr composite sample ND
	3.785 L per gallon (Merck Index)	
	0.000001 kg per mg (Merck Index)	
	29.81 calc kg COC discharged	
HPAHs		
	9 #yrs facility discharged	
	calc mg/L O&G	
	10% % O&G that is considered PAHs	
	60% % COC in O&G considered as PAHs	
	- calc mg/L HPAHs	
	3.785 L per gallon (Merck Index)	
	0.000001 kg per mg (Merck Index)	
	- calc kg COC discharged	
LPAHs		
	9 #yrs facility discharged	
	calc mg/L O&G	
	10% % O&G that is considered PAHs	
	40% % COC in O&G considered as PAHs	
	- calc mg/L LPAHs	
	3.785 L per gallon (Merck Index)	
	0.000001 kg per mg (Merck Index)	
	- calc kg COC discharged	
PCBs		
	2 #yrs facility discharged within PCBs Timeline	
	- calc mg/L COC discharged	
	3.785 L per gallon (Merck Index)	
	0.000001 kg per mg (Merck Index)	
	- calc kg COC discharged	
DDx		
	-3 #yrs facility discharged within DDx Timeline	
	- calc mg/L COC discharged	
	3.785 L per gallon (Merck Index)	
	0.000001 kg per mg (Merck Index)	
	- calc kg COC discharged	
Dieldrin		
	10 #yrs facility discharged within Dieldrin Timeline	
	- calc mg/L COC discharged	
	3.785 L per gallon (Merck Index)	
	0.000001 kg per mg (Merck Index)	
	- calc kg COC discharged	
Dioxins/Furans		
	9 #yrs facility discharged	
	- calc mg/L COC discharged	
	3.785 L per gallon (Merck Index)	
	0.000001 kg per mg (Merck Index)	
	- calc kg COC discharged	
Dioxin/Furan Precursor - 2,4-D		
	10 #yrs facility discharged within 2,4-D Timeline	
	- calc mg/L COC discharged	
	3.785 L per gallon (Merck Index)	
	0.000001 kg per mg (Merck Index)	
	- calc kg COC discharged	
Dioxin/Furan Precursor - 2,4,5-T		
	10 #yrs facility discharged within 2,4,5-T Timeline	
	- calc mg/L COC discharged	
	3.785 L per gallon (Merck Index)	
	0.000001 kg per mg (Merck Index)	
	- calc kg COC discharged	
Dioxin/Furan Precursor - 2,4,6-TCP		
	0 #yrs facility discharged within 2,4,6-TCP Timeline	
	- calc mg/L COC discharged	
	3.785 L per gallon (Merck Index)	
	0.000001 kg per mg (Merck Index)	
	- calc kg COC discharged	
Summary DMassCOC for POTW:		
	10.54 kg Copper	
	566.42 kg Lead	
	29.81 kg Mercury	
	- kg HPAHs	
	- kg LPAHs	
	- kg PCBs	
	- kg DDx	
	- kg Dieldrin	
	- kg Dioxins/Furans	

Allocation Facility Cmass Calculation

Cooper Industries LLC	75 Belmont Avenue	Belleville	NJ	07109
-----------------------	-------------------	------------	----	-------

Constituent Of Concern (COC)	Overland, Fate & Transport C%	Dmass Overland, Fate & Transport	PrePVSC C%	Dmass PrePVSC	PVSC C%	Dmass PVSC	Direct Discharge C%	Dmass Direct Discharge	COC Total Pathway Cmass	COC A%	COC Historic CMass
Copper	100.00%	54,902.33	100.00%	204.20	12.41%	367.56	100.00%	4,154.9	59,307.03	1.018817E-2	604.23
Lead	100.00%	1,578.47	100.00%	120.64	12.41%	217.15	100.00%	167.2	1,893.31	1.018817E-2	19.29
Mercury	100.00%	2,423.69	100.00%	91.84	12.41%	165.31	100.00%	195.3	2,731.35	1.018817E-2	27.83
HPAHs	100.00%	0.38	100.00%	-	12.41%	-	100.00%	-	0.38	1.018817E-2	0
LPAHs	100.00%	28.65	100.00%	-	12.41%	-	100.00%	-	28.65	1.018817E-2	0.29
PCBs	100.00%	1.7	100.00%	-	12.41%	-	100.00%	-	1.7	1.018817E-2	0.02
DDx	100.00%	-	100.00%	-	12.41%	-	100.00%	-	0	1.018817E-2	0
Dieldrin	100.00%	-	100.00%	-	12.41%	-	100.00%	-	0	1.018817E-2	0
Dioxins_Furans	100.00%	-	100.00%	-	12.41%	-	100.00%	-	0	1.018817E-2	0

Cooper Industries LLC	75 Belmont Avenue	Belleville	NJ	07109
-----------------------	-------------------	------------	----	-------

Constituent Of Concern (COC)	Relative Risk Number (RRN)	Total Mass (Tmass)	COC Historic CMass	COC Relative Contribution	COC Base Score
Copper	0.69	2,100,000.00	604.23	2.877E-4	1.985E-4
Lead	0.01	3,200,000.00	19.29	6.028E-6	6.028E-8
Mercury	0.95	42,000.00	27.83	6.626E-4	6.294E-4
HPAHs	0.05	240,000.00	0	1.613E-8	8.066E-10
LPAHs	0.01	170,000.00	0.29	1.717E-6	1.717E-8
PCBs	12.87	26,000.00	0.02	6.661E-7	8.573E-6
DDx	1.37	27,000.00	0	0	0
Dieldrin	0.13	390.00	0	0	0
Dioxins_Furans	83.92	38.00	0	0	0

Allocation Facility COC Base Scores - Alternative Calulcation

Cooper Industries LLC	75 Belmont Avenue	Belleville	NJ	07109
-----------------------	-------------------	------------	----	-------

Constituent Of Concern (COC)	Relative Risk Number (RRN)	Total Mass (Tmass)	Total Cmass (TCmass)	Total OS COC ACmass	COC %	COC Historic CMass	Facility OS COC Cmass	COC Relative Responsibility	COC Base Score
Copper	0.69	2,100,000.00	276,960.25	2,097,178.28	2.141E-1	604.23	449,080.36	2.141E-1	1.478E-1
Lead	0.01	3,200,000.00	288,577.67	3,197,059.92	6.561E-3	19.29	20,975.34	6.561E-3	6.561E-5
Mercury	0.95	42,000.00	4,322.53	41,955.96	6.319E-1	27.83	26,511.37	6.319E-1	6.003E-1
HPAHs	0.05	240,000.00	4,346,388.50	195,718.24	8.743E-8	0	0.02	8.743E-8	4.371E-9
LPAHs	0.01	170,000.00	3,012,835.14	139,304.72	9.509E-6	0.29	1.32	9.509E-6	9.509E-8
PCBs	12.87	26,000.00	20,066.54	25,795.56	8.472E-5	0.02	2.19	8.472E-5	1.090E-3
DDx	1.37	27,000.00	2,516.93	26,974.36	0	0	0	0	0
Dieldrin	0.13	390.00	1.27	389.99	0	0	0	0	0
Dioxins_Furans	83.92	38.00	3,729.82	0.00	0	0	0	0	0

Facility Bypass Information

Cooper Industries LLC	75 Belmont Avenue	Belleville	NJ	07109
-----------------------	-------------------	------------	----	-------

Item	Bypass Name	Bypass Type	Time %	Flow %	Bypass Notes
1	Union Outlet	Bypass	12.41%	100.00%	

Discharge Calcs	POTW Discharge Information	COMMENTS/NOTES
	gal discharged per day/week/month	From 1966-1987 discharge to PVSC, Prior to that discharge was to Belleville Sewer and Meadow Brook
	# hours/per day discharged	
	#days/week discharged	1966 - 32gpm x 236 days/year (PAP-00333570)
	#weeks/yr discharged	1978 Selected Substance Report - 75000 gpd (PAP-00334489)
25,955,562	calc gal/yr discharge	1979 PVSC Sewer Connection Ap - 51495409 gallons (PAP-00402951, 57, 60, 62, 66)
	1966 Yr Ops started	1980 PVSC Heavy Metal Source Determination Study - 0.1090 MGD (PAS-00027741-46)
	1987 Yr Ops ceased	1986 Jan-Mar - 6449000 x 4 quarters (PAP-00402968-70)
21	calc #yrs facility operated	
Copper (Cu)		Background influent water copper concentration=.222mg/l
21	#yrs facility discharged	1980 PVSC Sewer Connection Ap cu=.748 mg/l
-	calc mg/L COC discharged	1980 PVSC Heavy Metals Source Determination Study cu=.144mg/l
3.785	L per gallon (Merck Index)	1984 Sampling cu=.026 mg/l PAP-00334524
0.000001	kg per mg (Merck Index)	1985 sampling cu=.052 mg/l PAP-00333499
-	calc kg COC discharged	
Lead (Pb)		
21	#yrs facility discharged	Background influent water Lead concentration=.03mg/l
0.0304	calc mg/L COC discharged	1980 PVSC Heavy Metals Source Determination Study cpb=.300mg/l
3.785	L per gallon (Merck Index)	1984 Sampling pb=.025 mg/l PAP-00334524
0.000001	kg per mg (Merck Index)	1985 sampling pb=.025 mg/l PAP-00333499
62.72	calc kg COC discharged	
Mercury (Hg)		Background influent water mercury concentration=.0004mg/l
21	#yrs facility discharged	1980 PVSC Sewer Connection Ap Hg = .15 mg/l
0.0355	calc mg/L COC discharged	1980 PVSC Heavy Metals Source Determination Study Hg = .025 mg/l
3.785	L per gallon (Merck Index)	1984 Sampling Hg=.059 mg/l PAP-00334524
0.000001	kg per mg (Merck Index)	
73.24	calc kg COC discharged	
HPAHs		
21	#yrs facility discharged	
	calc mg/L O&G	
10%	% O&G that is considered PAHs	
60%	% COC in O&G considered as PAHs	
-	calc mg/L HPAHs	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
LPAHs		
21	#yrs facility discharged	
	calc mg/L O&G	
10%	% O&G that is considered PAHs	
40%	% COC in O&G considered as PAHs	
-	calc mg/L LPAHs	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
PCBs		
12	#yrs facility discharged within PCBs Timeline	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
DDx		
7	#yrs facility discharged within DDx Timeline	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dieldrin		
22	#yrs facility discharged within Dieldrin Timeline	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxins/Furans		
21	#yrs facility discharged	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxin/Furan Precursor - 2,4-D		
22	#yrs facility discharged within 2,4-D Timeline	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxin/Furan Precursor - 2,4,5-T		
20	#yrs facility discharged within 2,4,5-T Timeline	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxin/Furan Precursor - 2,4,6-TCP		
10	#yrs facility discharged within 2,4,6-TCP Timeline	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Summary DMassCOC for POTW:		
-	kg Copper	
62.72	kg Lead	
73.24	kg Mercury	
-	kg HPAHs	
-	kg LPAHs	
-	kg PCBs	
-	kg DDx	
-	kg Dieldrin	
-	kg Dioxins/Furans	

Discharge Calcs	POTW Discharge Information	COMMENTS/NOTES
	gal discharged per day/week/month	From 1966-1987 discharge to PVSC, Prior to that discharge was to Belleville Sewer and Meadow Brook
	# hours/per day discharged	
	#days/week discharged	1966 - 32gpm x 236 days/year (PAP-00333570)
	#weeks/yr discharged	1978 Selected Substance Report - 75000 gpd (PAP-00334489)
25,955,562	calc gal/yr discharge	1979 PVSC Sewer Connection Ap - 51495409 gallons (PAP-00402951, 57, 60, 62, 66)
		1980 PVSC Heavy Metal Source Determination Study - 0.1090 MGD (PAS-00027741-46)
1942	Yr Ops started	1986 Jan-Mar - 6449000 x 4 quarters (PAP-00402968-70)
1966	Yr Ops ceased	
24	calc #yrs facility operated	
Copper (Cu)		
24	#yrs facility discharged	1980 PVSC Sewer Connection Ap cu=.748 mg/l
0.24	calc mg/L COC discharged	1980 PVSC Heavy Metals Source Determination Study cu=.144mg/l
3.785	L per gallon (Merck Index)	1984 Sampling cu=.026 mg/l PAP-00334524
0.000001	kg per mg (Merck Index)	1985 sampling cu=.052 mg/l PAP-00333499
571.77	calc kg COC discharged	
Lead (Pb)		
24	#yrs facility discharged	
0.12	calc mg/L COC discharged	1980 PVSC Heavy Metals Source Determination Study cpb=.300mg/l
3.785	L per gallon (Merck Index)	1984 Sampling pb=.025 mg/l PAP-00334524
0.000001	kg per mg (Merck Index)	1985 sampling pb=.025 mg/l PAP-00333499
275.08	calc kg COC discharged	
Mercury (Hg)		
24	#yrs facility discharged	1980 PVSC Sewer Connection Ap Hg = .15 mg/l
0.0780	calc mg/L COC discharged	1980 PVSC Heavy Metals Source Determination Study Hg = .025 mg/l
3.785	L per gallon (Merck Index)	1984 Sampling Hg=.059 mg/l PAP-00334524
0.000001	kg per mg (Merck Index)	
183.91	calc kg COC discharged	
HPAHs		
24	#yrs facility discharged	
	calc mg/L O&G	
10%	% O&G that is considered PAHs	
60%	% COC in O&G considered as PAHs	
-	calc mg/L HPAHs	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
LPAHs		
24	#yrs facility discharged	
	calc mg/L O&G	
10%	% O&G that is considered PAHs	
40%	% COC in O&G considered as PAHs	
-	calc mg/L LPAHs	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
PCBs		
25	#yrs facility discharged within PCBs Timeline	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
DDx		
25	#yrs facility discharged within DDx Timeline	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dieldrin		
17	#yrs facility discharged within Dieldrin Timeline	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxins/Furans		
24	#yrs facility discharged	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxin/Furan Precursor - 2,4-D		
21	#yrs facility discharged within 2,4-D Timeline	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxin/Furan Precursor - 2,4,5-T		
22	#yrs facility discharged within 2,4,5-T Timeline	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxin/Furan Precursor - 2,4,6-TCP		
17	#yrs facility discharged within 2,4,6-TCP Timeline	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Summary DMassCOC for POTW:		
571.77	kg Copper	
275.08	kg Lead	
183.91	kg Mercury	
-	kg HPAHs	
-	kg LPAHs	
-	kg PCBs	
-	kg DDx	
-	kg Dieldrin	

-	kg Dioxins/Furans	

Discharge Calcs	Direct Discharge Information	COMMENTS/NOTES
	# hours/day discharged	1889-1942
	# days/week discharged	Direct Discharge to Meadow Brook which flows to Second River to Passaic River
	# weeks/yr discharged	
25,955,562	# gals/yr directly discharged	
4.08	ft; 30yr average annual precipitation per Rutgers information	
	acres	
43,560	ft2 per acre	
	acres	
50%	Percent Precip to River	
1909	Yr Ops started	FDR page 3
1965	Yr Ops ceased	FDR page 2
56	calc #yrs facility operated	FDR page 3
Copper (Cu)		Background influent water copper concentration=.222mg/l
56	#yrs facility discharged	1980 PVSC Sewer Connection Ap cu=.748 mg/l
-	calc mg/L COC discharged	1980 PVSC Heavy Metals Source Determination Study cu=.144mg/l
3.785	L per gallon (Merck Index)	1984 Sampling cu=.026 mg/l PAP-00334524
0.000001	kg per mg (Merck Index)	1985 sampling cu=.052 mg/l PAP-00333499
-	calc kg COC discharged	
Lead (Pb)		Background influent water Lead concentration=.03mg/l
56	#yrs facility discharged	1980 PVSC Heavy Metals Source Determination Study cpb=.300mg/l
0.0304	calc mg/L COC discharged	1984 Sampling pb=.025 mg/l PAP-00334524
3.785	L per gallon (Merck Index)	1985 sampling pb=.025 mg/l PAP-00333499
0.000001	kg per mg (Merck Index)	
167.25	calc kg COC discharged	
Mercury (Hg)		Background influent water mercury concentration=.0004mg/l
56	#yrs facility discharged	1980 PVSC Sewer Connection Ap Hg = .15 mg/l
0.0355	calc mg/L COC discharged	1980 PVSC Heavy Metals Source Determination Study Hg = .025 mg/l
3.785	L per gallon (Merck Index)	1984 Sampling Hg=.059 mg/l PAP-00334524
0.000001	kg per mg (Merck Index)	
195.30	calc kg COC discharged	
HPAHs		
56	#yrs facility discharged	
-	calc mg/L O&G	
25%	% O&G that is considered PAHs	
60%	% COC in O&G considered as PAHs	
-	calc mg/L HPAHs	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
LPAHs		
56	#yrs facility discharged	
-	calc mg/L O&G	
25%	% O&G that is considered PAHs	
40%	% COC in O&G considered as PAHs	
-	calc mg/L LPAHs	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
PCBs		
56	#yrs facility discharged within PCBs Timeline	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
DDx		
56	#yrs facility discharged within DDx Timeline	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dieldrin		
56	#yrs facility discharged within Dieldrin Timeline	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxins/Furans		
56	#yrs facility discharged	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxin/Furan Precursor - 2,4-D		
56	#yrs facility discharged within 2,4-D Timeline	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxin/Furan Precursor - 2,4,5-T		
56	#yrs facility discharged within 2,4,5-T Timeline	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxin/Furan Precursor - 2,4,6-TCP		
56	#yrs facility discharged within 2,4,6-TCP Timeline	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Summary DMassCOC for Direct Discharge:		
-	kg Copper	
167.25	kg Lead	
195.30	kg Mercury	
-	kg HPAHs	
-	kg LPAHs	
-	kg PCBs	
-	kg DDx	
-	kg Dieldrin	
-	kg Dioxins/Furans	

Discharge Calcs	Direct Discharge Information	COMMENTS/NOTES
	# hours/day discharged	1913-1939 discharge from lagoons to Meadow Brook
	# days/week discharged	
	# weeks/yr discharged	
14,123,892	# gals/yr directly discharged	
4.08	ft; 30yr average annual precipitation per Rutgers information	
	acres	
43,560	ft ² per acre	
	acres	
50%	Percent Precip to River	
1900	Yr Ops started	FDR Page 7
1960	Yr Ops ceased	FDR Page 7
55	calc #yrs facility operated	FDR Page 7 - w/ adjustment for facility being closed 1904-1909
Copper (Cu)		Background influent water copper concentration=.222mg/l
55	#yrs facility discharged	PAP-00334684
3.92	calc mg/L COC discharged	PAP-00049910 and PAP-00335678
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
4,154.88	calc kg COC discharged	
Lead (Pb)		
55	#yrs facility discharged	
	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Mercury (Hg)		
55	#yrs facility discharged	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
HPAHs		
55	#yrs facility discharged	
	calc mg/L O&G	
25%	% O&G that is considered PAHs	
60%	% COC in O&G considered as PAHs	
-	calc mg/L HPAHs	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
LPAHs		
55	#yrs facility discharged	
	calc mg/L O&G	
25%	% O&G that is considered PAHs	
40%	% COC in O&G considered as PAHs	
-	calc mg/L LPAHs	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
PCBs		
55	#yrs facility discharged within PCBs Timeline	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
DDx		
55	#yrs facility discharged within DDx Timeline	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dieldrin		
55	#yrs facility discharged within Dieldrin Timeline	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxins/Furans		
55	#yrs facility discharged	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxin/Furan Precursor - 2,4-D		
55	#yrs facility discharged within 2,4-D Timeline	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxin/Furan Precursor - 2,4,5-T		
55	#yrs facility discharged within 2,4,5-T Timeline	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxin/Furan Precursor - 2,4,6-TCP		
55	#yrs facility discharged within 2,4,6-TCP Timeline	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Summary DMassCOC for Direct Discharge:		
4,154.88	kg Copper	
-	kg Lead	
-	kg Mercury	
-	kg HPAHs	
-	kg LPAHs	
-	kg PCBs	
-	kg DDx	
-	kg Dieldrin	
-	kg Dioxins/Furans	

Discharge Calcs	Direct Discharge Information	ASSUMPTIONS, REFERENCES	COMMENTS/NOTES
	4.08 FEET/YEAR AVERAGE PRECIPITATION	Long term average annual precipitation includes floods and hurricane events occurring over time.	Data from Rutgers University.
	15 ACRES - TOTAL SITE AREA (acres) FDR pg 1	Approx 7 acres within property line when surface soil sampled 1986 ECRA SES, (PAP-00049203 pg. 114)	
	8 ACRES - AFFECTED AREA	1925 drawing of Silver Lake Plant (PAP-00332567) with 'coke' and 'cake' piles adjacent to 50,000 ga. fuel oil AST, north of Red Iron Oxide Bldg. Preliminary Assessment Report, (Stantec May 24, 2012) Fig 2 has overlay of former buildings prior to parking lot (PAP-00334892). F and T Figures is 9 acres. With parking lot (Google Earth figure), 15 acres includes former sludge pond location.	Due to confirmed airborne surface soil deposition of Hg (FDR pg. 10), 100% of the property is deemed impacted for Hg. Other COCs will be 50% of 1986 acreage or calculations due to presence of buildings.
	4,046.86 METERS ² /ACRE		
	30,351 METERS ² (AFFECTED AREA)		
	0.0001 METERS/YEAR (ERODED SOIL THICKNESS)	For this estimate, used a surface soil erosion rate of 0.1 mm/year, or 0.004 inches/year.	
	3 METERS ³ /YEAR (ERODED SOIL VOLUME)	VOLUME/YEAR DISCHARGED	
	1900 Year site operations began	Originally operated as Edison Manufacturing Company, a battery manufacturer in the early 1900s. Year operation began is 1900, as supported with FDR Section 3 dating the construction of buildings.	
	1987 Year site processing and storage operations ceased	The Final Preliminary Assessment Final Remedial Investigation Report, dated May 6, 2017 (Final RI Report), stated that the buildings associated with the Thomas A. Edison, Inc. Chemical Plant were demolished in the early 1970's, and the property remained vacant until it was redeveloped as a retail grocery store and laundromat with associated parking lots in 1980 (PAP-00334737, 840).	
	87 NUMBER YEARS DISCHARGE		
	264 METERS ³ (TOTAL SOIL VOLUME DISCHARGED OVER TIME)		
	1,979 KG/M ³ SOIL DENSITY	layers of unconsolidated sand, silt, and clay. (PAP-00049305). Bulk density range 1602 kg/m ³ to 2355 kg/m ³ so use average of 1978.5 kg/m ³ Sandv or siltv clay	The Allocation Team has concluded that the Site is not on regional Historic Fill as designated by the NJDEP.
	522,438 KILOGRAMS (TOTAL SOIL DISCHARGED OVER TIME)		
Copper (Cu)	87 YEARS DISCHARGED	1986 ECRA SES TABLE IV-1 (PAP-00049327)	
	80000 MG/KG (MAX CONCENTRATION)	Subsurface soil value (1-2 ft bgs) as surface soil is similar and was assumed to be at least that high to impact two feet down.	
	0.000001 kg per mg (Merck Index)	The highest concentration of copper in subsurface soil (1-3 ft bgs) was 80,000 ppm (PAP-00049316-17, 28-29).	
	41,795 KILOGRAMS DISCHARGED		
Lead (Pb)	87 YEARS DISCHARGED	1986 ECRA SES TABLE IV-1 (PAP-00049327)	
	2300 MG/KG (AVERAGE CONCENTRATION)	Soil sample S-5 result from 2.5 feet bgs, listed in Summary of Historical Analytical Results in Area B (FDR page 13; PAP-00065653)	
	0.000001 kg per mg (Merck Index)		
	1,202 KILOGRAMS DISCHARGED		
Mercury (Hg)	87 YEARS DISCHARGED	Operation of Hg/Zn amalgamation may have resulted in disposition elemental Hg on property. August 20, 1986 ECRA SES Pg. 36.	
	2,005 MG/KG (MAX CONCENTRATION)	The highest concentration of mercury in surface soil was 2,005 ppm, detected between the main building and Building No. 57 (PAP-00049327)	
	0.000001 kg per mg (Merck Index)		
	2,095 KILOGRAMS DISCHARGED		

PAHs (listed in Benzo(a)pyrene Equivalent conversion table)	
87 YEARS DISCHARGED	
0.552 MG/KG (TOTAL PAH AVERAGE CONCENTRATION)	
0.000001 kg per mg (Merck Index)	
0.29 KILOGRAMS DISCHARGED	
PAHs (others detected)	
87 YEARS DISCHARGED	
54.20 MG/KG (TOTAL PAH MAX CONCENTRATION)	
0.000001 kg per mg (Merck Index)	
28 KILOGRAMS DISCHARGED	
PCBs	
57 YEARS DISCHARGED	
3.36 MG/KG (MAX OF REPORTED CONCENTRATIONS)	

Total concentration of PAH compounds for Benzo(a)pyrene Equivalent
<https://floridadep.gov/waste/petroleum-restoration/documents/benzo-pyrene-equivalents-conversion-table-one-sample>.

Phenanthrene - 7.7 ppm
Acenaphthylene - 2.4 ppm
2-methylnaphthalene - 35 ppm
Naphthalene - 3.4 ppm
Fluorene - 5.7 ppm
Table 9, Sample ID B-P315 (5.0-6.0 ft bgs)

PCBs were detected in TCLP composite sample 3.36 ppm (PAP-00332584).
Reduced discharge period to 1930-1987.

Table 9, Sample IDB-P10S (1.8-2.8 ft bgs) (PAP-00334938)

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.390	1.0	0.3900
Benzo(a)anthracene	0.430	0.1	0.0430
Benzo(b)fluoranthene	0.690	0.1	0.0690
Benzo(k)fluoranthene	0.250	0.01	0.0025
Chrysene	0.560	0.001	0.0006
Dibenz(a,h)anthracene	0.037	1.0	0.0370
Indeno(1,2,3-cd)pyrene	0.100	0.1	0.0100

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents =

0.552

0.000001 kg per mg (Merck Index)	
1 KILOGRAMS DISCHARGED	
DDx	
0 YEARS DISCHARGED within DDx Timeline	
MG/KG (MAX CONCENTRATION)	
3.785 L per gallon (Merck Index)	
0.000001 kg per mg (Merck Index)	
0 KILOGRAMS DISCHARGED	
Dieldrin	
0 YEARS DISCHARGED within Dieldrin Timeline	
MG/KG (MAX CONCENTRATION)	
3.785 L per gallon (Merck Index)	
0.000001 kg per mg (Merck Index)	
0 KILOGRAMS DISCHARGED	
Dioxins/Furans	
NONE FOUND IN AVAILABLE DOCUMENTATION	
0 YEARS DISCHARGED	
0 MG/KG (MAX CONCENTRATION)	
0.000001 kg per mg (Merck Index)	
0 calc kg COC discharged	

NOT DETECTED (FDR)

SUMMARY CMASS ESTIMATES:	
41,795.04 kg Copper	
1,201.61 kg Lead	
2,094.98 kg Mercury	
0.29 kg PAHs (Benzo(a)pyrene Equivalent)	
28.32 kg PAHs (Other)	
1.15 kg PCBs	
0.00 kg DDx	
0.00 kg Dieldrin	
0.00 kg Dioxins/Furans	
45121.38 MASS (KG) DISCHARGED FROM SURFACE SOIL	

Discharge Calcs	Direct Discharge Information	NOTES, COMMENTS, REFERENCES	
	0.46 FEET for 6 flooding events	AVERAGE SHOULD INCLUDE FLOODS AND HURRICANE EVENTS OVER TIME	6 qty, 11,532 gallon release events (6 foot deep 1,992 sf basin), equals 0.46 feet in a 1,992 basin.
	15 ACRES - TOTAL SITE AREA (acres)	FDR pg 1	
	0.04 ACRES - AFFECTED AREA	ESTIMATED LAGOON AND NEUTRALIZATION AREA (PAS-00109548)	
	4,046.86 METERS ² /ACRE	Preliminary Assessment Report, Fig 2 (PAP-00334892) has overlay of former buildings prior to parking lot with former sludge pond in upper left corner. Approximately 1,922 sqft.	Unknown, but given 100,000-gal water released in 1948 flood event and 1,922 sq ft area of lagoon, assume greater than 1,000 gal released. On <u>May 30, 1984, the sedimentation impoundment overflowed</u> . The accidental discharge was due to a blockage of the discharge line and extremely heavy rains. The overflow went to a neighboring homeowner's property and accumulated in an area being prepared for an in-ground swimming pool. (PAP-00049278)
	162 METERS ² (AFFECTED AREA)		
	0.0170 METERS/YEAR (ERODED SOIL THICKNESS)	With 3.7% solids in sludge (PAP-00332945) and a one time event, 0.037*0.46 feet of flood water in 1,992 basin, eroded soil thickness is 0.01702	12755.10204
	2.76 METERS ³ /YEAR (ERODED SOIL VOLUME)	ASSUME VOLUME/YEAR DISCHARGED TO DITCHES AND FIRST CREEK	
	YEAR STARTED DISCHARGING TO LAGOON SITE REMEDIATION, GEOTEXTILE, ASPHALT COVER		
	1 NUMBER YEARS DISCHARGE	Years of discharge (6 flooding events) converted to one time depth in 1,992 sf pond.	
	2.76 METERS ³ (TOTAL SOIL VOLUME DISCHARGED OVER TIME)		
	1,024 KG/M ³ SOIL DENSITY	sludge density is 1.024 kg/L at 1000L/m3 = 1024 kg/m3	McGraw-Edison Company to Caldwell Trucking Company, Inc. may 9, 1973 re: sludge contents (PAP-00332945). Total solids of 33,500 mg/L or 3.7% by weight equals a density of 1.024 kg/L for converting the estimated concentration of sludge to solid released during flooding events.
	2,821 KILOGRAMS (TOTAL WT OF SOIL AFFECTED OVER TIME)		
Copper (Cu)	1 YEARS DISCHARGED 31.25 MG/KG (MAX CONCENTRATION)	Copper from sludge,(32 mg/L * 1000 L/m3)/1024 kg/m3 density of sludge. (FDR, PAGE 6, 2nd paragraph and PAP-00332945).	
	0.000001 kg per mg (Merck Index)		
	0.088 KILOGRAMS DISCHARGED		
Lead (Pb)	1 YEARS DISCHARGED 10 MG/KG (MAX CONCENTRATION)	Samples of the settling pit were collected January 18, 1983 and reported up to 75.53 mg/kg mercury and 10.03 mg/kg lead (note units of measure were not clearly identified). Copper was not reported (PAP-CONF-00009957).	
	0.000001 kg per mg (Merck Index)		
	0 KILOGRAMS DISCHARGED		
Mercury (Hg)	1 YEARS DISCHARGED 75.5 MG/KG (MAX CONCENTRATION)	Samples of the settling pit were collected January 18, 1983 and reported up to 75.53 mg/kg mercury and 10.03 mg/kg lead (note units of measure were not clearly identified). Copper was not reported (PAP-CONF-00009957).	
	0.000001 kg per mg (Merck Index)		
	0.21 KILOGRAMS DISCHARGED		
SUMMARY CMASS ESTIMATES:			
0.09 kg Copper			
0.03 kg Lead			
0.21 kg Mercury			
0.33 MASS (KG) DISCHARGED BY OVERLAND FLOW			

Discharge Calcs	Direct Discharge Information	NOTES, COMMENTS, REFERENCES
	0.46 FEET for 6 flooding events	AVERAGE SHOULD INCLUDE FLOODS AND HURRICANE EVENTS OVER TIME
	ACRES - TOTAL SITE AREA (acres)	
	ACRES - AFFECTED AREA	ESTIMATED 30-ft DIA Scoured hole from 10" pipe break on May 12, 1948 (PAS-00050268) Fire sprinkler line would be below the frost line (6' bgs) so with scour of a 30-ft diameter hole with an average depth of 8-feet would release asproximately 5,652 cubic feet or 160 m ³ of soil. Using the same density as for surface erosion, 1978.5 mg/m ³ equals 163,840 kg
	4,046.86 METERS ² /ACRE	
	0 METERS ² (AFFECTED AREA)	
		PVSC inspection records 1938-1948 noted events such as heavy rains caused flooding at facility site. 5/12/1948 wastes flowed into Second River from Meadow Brook storm sewer; Second River looked like "river of blood all the way down to its confluence with the Passaic River." Discharge from facility site, caused by waterline break, releasing 100,000 gals water, flooded all north side bldgs, undermined bldgs, produced 30-ft hole in yard resulting in collapse of all 3 industrial sewers. (PAP-00050259)
	0.0170 METERS/YEAR (ERODED SOIL THICKNESS)	
	0.00 METERS ³ /YEAR (ERODED SOIL VOLUME)	ASSUME VOLUME/YEAR DISCHARGED
	YEAR STARTED DISCHARGING TO LAGOON SITE REMEDIATION, GEOTEXTILE, ASPHALT COVER	
	1 NUMBER YEARS DISCHARGE	
	0.00 METERS ³ (TOTAL SOIL VOLUME DISCHARGED OVER TIME)	
	1,979 KG/M ³ SOIL DENSITY	Layers of unconsolidated sand, silt, and clay. (PAP-00049305). Bulk density range 1602 kg/m ³ to 2355 kg/m ³ , so use average of 1978.5 kg/m ³ . Sandy or silty clay forhttp://structx.com/Soil_Properties_002.html
	163,840 KILOGRAMS (TOTAL WT OF SOIL AFFECTED FROM SCOUR)	
Copper (Cu)	1 YEARS DISCHARGED	1986 ECRA SES TABLE IV-1 (PAP-00049327) Subsurface soil value (1-2 ft bgs) as surface soil is similar and was assumed to be at least that high to impact two feet down. The highest concentration of copper in subsurface soil (1-3 ft bgs) was 80,000 ppm (PAP-00049316-17, 28-29).
	80000 MG/KG (MAX CONCENTRATION)	
	0.000001 kg per mg (Merck Index)	
	13,107.200 KILOGRAMS DISCHARGED	
Lead (Pb)	1 YEARS DISCHARGED	1986 ECRA SES TABLE IV-1 (PAP-00049327)
	2300 MG/KG (MAX CONCENTRATION)	Soil sample S-5 result from 2.5 feet bgs, listed in Summary of Historical Analytical Results in Area B (FDR page 13; PAP-00065653)
	0.000001 kg per mg (Merck Index)	
	377 KILOGRAMS DISCHARGED	
Mercury (Hg)	1 YEARS DISCHARGED	Operation of Hg/Zn amalgamation may have resulted in disposition elemental Hg on property. August 20, 1986 ECRA SES Pg. 36.
	2,005 MG/KG (MAX CONCENTRATION)	The highest concentration of mercury in surface soil was 2,005 ppm, detected between the main building and Building No. 57 (PAP-00049327)
	0.000001 kg per mg (Merck Index)	
	328.50 KILOGRAMS DISCHARGED	
PAHs (listed in Benzoic Pyrene Equivalent conversion table)		Total concentration of PAH compounds for Benzo(a)pyrene Equivalent https://floridadep.gov/waste/petroleum-restoration/documents/benzo-pyrene-equivalents-conversion-table-one-sample.
	1 YEARS DISCHARGED	
	0.552 MG/KG (TOTAL PAH AVERAGE CONCENTRATION)	Attributed to historic fill - The 2017 Final RI Report attributed the PAHs (except 2-methylnaphthalene) concentrations in soil to historic fill (PAP-00334877).
	0.000001 kg per mg (Merck Index)	
	0.09 KILOGRAMS DISCHARGED	
PAHs (others detected)		Benzo (g,h,i) perylene - 0.09J ppm Fluoranthene - 0.63 ppm Phenanthrene - 0.2J Pyrene - 0.49 ppm Anthracene - 0.59J
	28 YEARS DISCHARGED	
	2.00 MG/KG (TOTAL PAH MAX CONCENTRATION)	
	0.000001 kg per mg (Merck Index)	
	0.33 KILOGRAMS DISCHARGED	

Table 9, Sample IDB-P10S (1.8-2.8 ft bgs) (PAP-00334938)	Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
	Benzo(a)pyrene (0.39mg/kg< HF 1.89)	0.390	1.0	0.3900
	Benzo(a)anthracene (0.43mg/kg< HF 1.37)	0.430	0.1	0.0430
	Benzo(b)fluoranthene (0.69g/kg< HF 1.91)	0.690	0.1	0.0690
	Benzo(k)fluoranthene (0.25mg/kg< HF 1.79)	0.250	0.01	0.0025
	Chrysene	0.560	0.001	0.0006
	Dibenz(a,h)anthracene (0.024mg/kg< HF 1.24)	0.037	1.0	0.0370
	Indeno(1,2,3-cd)pyrene	0.100	0.1	0.0100
	DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg			
	Total Benzo(a)pyrene Equivalents =			0.552

PCBs	28 YEARS DISCHARGED within PCBs Timeline 3.36 MG/KG (MAX OF REPORTED CONCENTRATIONS)	PCBs were detected in TCLP composite sample 3.36 ppm (PAP-00332584).
	0.000001 kg per mg (Merck Index)	
	1 KILOGRAMS DISCHARGED	
DDx	0 YEARS DISCHARGED within DDx Timeline MG/KG (CONCENTRATION)	NO CONCENTRATION INFO
	3.785 L per gallon (Merck Index)	
	0.000001 kg per mg (Merck Index)	
	0 KILOGRAMS DISCHARGED	
Dieldrin	0 YEARS DISCHARGED within Dieldrin Timeline MG/KG (CONCENTRATION)	NO CONCENTRATION INFO
	3.785 L per gallon (Merck Index)	
	0.000001 kg per mg (Merck Index)	
	0 KILOGRAMS DISCHARGED	
Dioxins/Furans	0 YEARS DISCHARGED MG/KG (CONCENTRATION)	NO CONCENTRATION INFO
	0.000001 kg per mg (Merck Index)	
	0 calc kg COC discharged	

SUMMARY CMASS ESTIMATES:
13,107.20 kg Copper
376.83 kg Lead
328.50 kg Mercury
0.09 kg PAHs MAX
0.33 kg PAHs MAX
0.55 kg PCBs
0.00 kg DDx
0.00 kg Dieldrin
0.00 kg Dioxins/Furans

13,813.50 MASS (KG) DISCHARGED BY OVERLAND FLOW

7, 13, & 26 Bank Street	Newark	NJ	07102
------------------------------------	---------------	-----------	--------------

75 Belmont Avenue		Belleville	NJ	07109			
Facility BS	CUF	CUF_Category	CUF_NOTES		COF	COF_NOTES	Facillty Adjusted BS
8.366E-4	10.0%	Periodic Noncompliacne	PVSC issued a notice to desist pollution to Edison Chemical Company at Belleville on May 1, 1939 (PAS-00028126). A record of ten years of inspections performed by the PVSC on the Edison Company, Storage Battery Division, in Silver Lake, Belleville, dated June 15, 1948, documented the investigation of contamination entering the Second River. NJDEP issued a Directive Letter to McGraw Edison on June 6, 1984, to cease operation of the unlined pretreatment lagoons (PAP-00049811). An August 4, 1987, NJDEP Inspection Report stated that the facility did not have a hazardous waste management program consistent with hazardous waste regulations. A NOV would have been issued, but the operations had ceased (PAP-00050211-13). On May 12, 1948, “exceptionally strong iron wastes were found flowing into the Second River from the Meadow Brook storm sewer of such intensity that Second River looked like a river of blood all the way down to its confluence with the Passaic River.” The discharge emanated from Edison Storage Battery Division, Belmont Avenue, Belleville facility. The cause was a waterline break that resulted in releasing 100,000 gallons of water that flooded all north side buildings, undermined the buildings and producing a 30-foot hole in the yard and resulting in subsequent collapse of all three industrial sewers. Chemicals, sand, and finished chemical materials were washed into the sewer and caused a blockage. The broken water line was repaired with a sleeve and the pipes broke again. The large hole filled with an acid and iron solution. A pump line from the hole drained the mixture into the clear water line directly to the storm sewer and into Second River. The waste could not be put into the sanitary sewer until new sewer pipes had been installed. The acid corroded the pumps and caused them to fail...(PAP-00050268-69).		-20.0%	-20% CPG/SPG member - Continuous provision of funding and participation in PRP Group(s) actions to cooperate with governmental/regulatory entities to address environmental or public harm created by own activities	7.530E-4

33 Littleton Avenue	Newark	NJ	07107
---------------------	--------	----	-------

ARR2263

AP_ABS

7.537E-4

ARR2264

7, 13, & 26 Bank Street	Newark	NJ	07102
------------------------------------	---------------	-----------	--------------

75 Belmont Avenue		Belleville	NJ	07109			
Facility BS	CUF	CUF_Category	CUF_NOTES		COF	COF_NOTES	Facillty Adjusted BS
7.492E-1	10.0%	Periodic Noncompliacne	PVSC issued a notice to desist pollution to Edison Chemical Company at Belleville on May 1, 1939 (PAS-00028126). A record of ten years of inspections performed by the PVSC on the Edison Company, Storage Battery Division, in Silver Lake, Belleville, dated June 15, 1948, documented the investigation of contamination entering the Second River. NJDEP issued a Directive Letter to McGraw Edison on June 6, 1984, to cease operation of the unlined pretreatment lagoons (PAP-00049811). An August 4, 1987, NJDEP Inspection Report stated that the facility did not have a hazardous waste management program consistent with hazardous waste regulations. A NOV would have been issued, but the operations had ceased (PAP-00050211-13). On May 12, 1948, “exceptionally strong iron wastes were found flowing into the Second River from the Meadow Brook storm sewer of such intensity that Second River looked like a river of blood all the way down to its confluence with the Passaic River.” The discharge emanated from Edison Storage Battery Division, Belmont Avenue, Belleville facility. The cause was a waterline break that resulted in releasing 100,000 gallons of water that flooded all north side buildings, undermined the buildings and producing a 30-foot hole in the yard and resulting in subsequent collapse of all three industrial sewers. Chemicals, sand, and finished chemical materials were washed into the sewer and caused a blockage. The broken water line was repaired with a sleeve and the pipes broke again. The large hole filled with an acid and iron solution. A pump line from the hole drained the mixture into the clear water line directly to the storm sewer and into Second River. The waste could not be put into the sanitary sewer until new sewer pipes had been installed. The acid corroded the pumps and caused them to fail...(PAP-00050268-69).		-20.0%	-20% CPG/SPG member - Continuous provision of funding and participation in PRP Group(s) actions to cooperate with governmental/regulatory entities to address environmental or public harm created by own activities	6.743E-1

33 Littleton Avenue	Newark	NJ	07107
---------------------	--------	----	-------

ARR2265

AP_ABS

6.750E-1

ARR2266

Allocator's Determinations Regarding Legal Defenses Raised by Allocation Parties

COOPER INDUSTRIES – Bank Street

Cooper argues that it has no connection to or CERCLA liability for the Wiss Family Operations at these locations. The FDR acknowledges that Cooper never owned any of these locations or was connected to the operations at them. When Cooper acquired the assets of a New Jersey corporation, J. Wiss & Sons Co., in 1976, it acquired assets related to J. Wiss & Sons Co.'s then-operations at several locations, including at the Littleton Avenue location in Newark. Cooper assumed only specific and narrowly defined liabilities of J. Wiss & Sons Co. It did not assume any CERCLA liabilities of that corporation, much less those associated with these operations involving individual Wiss family members that ended more than a decade before J. Wiss & Sons Co. was incorporated. *United States v. Gen. Battery Corp.*, 423 F.3d 294, 305 (3d Cir. 2005) (appropriate indirect liability standard for CERCLA actions is the general rule of corporate-successor non-liability, *i.e.*, an acquiring company is generally not liable for the debts and liabilities of a selling company except in certain instances).

Cooper never owned or conducted any operations at any of the Bank Street locations. J. Wiss & Sons, Co. never operated at the Bank Street locations and was not formed until over ten years after the Bank Street real property was sold to Prudential Insurance Company (PAP-00332550; PAP-00331502).

In the 1976 transaction wherein Cooper acquired certain assets of J. Wiss & Sons Co., Cooper did not assume any CERCLA liabilities of J. Wiss & Sons Co. or of any alleged predecessors to J. Wiss & Sons Co., including any such liabilities with respect to the Bank Street locations.

Cooper disputes that it has any liability associated with the Primary Battery Facility operations prior to that period, when those operations were owned and operated by Thomas A. Edison, Inc. ('TAE') or after McGraw-Edison's ownership/operations of the Primary Battery Facility ended in 1985 (*i.e.*, Battery Products, Inc. operations).

In addition, the following statement was provided regarding the Storage Battery Business (Chemical Works plant): Cooper's liability, if any, for purposes of the Allocation does not extend to operations associated with the Storage Battery Business. When Cooper merged with McGraw-Edison in 1985, any liabilities that McGraw-Edison may have had with respect to the Storage Battery Business had already been transferred to and assumed by Electric Storage Battery Company (later referred to as Exide Technologies). Any operations in and after 1960 would be the responsibility of Exide, and Cooper has no connection to or liabilities for any such operations.

In addition, regarding the liabilities transferred to Exide, Cooper contends that those liabilities would not include any liabilities related to the operations prior to the 1957 TAE transaction.

ALLOCATOR'S DETERMINATION – Though Cooper Industries may have a sustainable argument regarding its allegation that it did not accept the CERCLA liability of J. Wiss & Sons, there is an

insufficient demonstration of applicable case law and facts to support this claim based on available data. Though the Allocator presumes a substantial chance of success should this matter go to litigation with sufficient evidence, we leave this matter as a topic for settlement discussions between Cooper Industries and EPA.

Allocation Facility Cmass Calculation

Covanta Essex Company	66 &183 Raymond Blvd.	Newark	NJ	07105
-----------------------	-----------------------	--------	----	-------

Constituent Of Concern (COC)	Overland, Fate & Transport C%	Dmass Overland, Fate & Transport	PrePVSC C%	Dmass PrePVSC	PVSC C%	Dmass PVSC	Direct Discharge C%	Dmass Direct Discharge	COC Total Pathway Cmass	COC A%	COC Historic CMass
Copper	100.00%	-	100.00%	-	0.00%	-	100.00%	-	0	1.018817E-2	0
Lead	100.00%	-	100.00%	-	0.00%	-	100.00%	16.0	15.98	1.018817E-2	0.16
Mercury	100.00%	-	100.00%	-	0.00%	-	100.00%	-	0	1.018817E-2	0
HPAHs	100.00%	-	100.00%	-	0.00%	-	100.00%	-	0	1.018817E-2	0
LPAHs	100.00%	-	100.00%	-	0.00%	-	100.00%	-	0	1.018817E-2	0
PCBs	100.00%	-	100.00%	-	0.00%	-	100.00%	-	0	1.018817E-2	0
DDx	100.00%	-	100.00%	-	0.00%	-	100.00%	-	0	1.018817E-2	0
Dieldrin	100.00%	-	100.00%	-	0.00%	-	100.00%	-	0	1.018817E-2	0
Dioxins_Furans	100.00%	-	100.00%	-	0.00%	-	100.00%	-	0	1.018817E-2	0

Covanta Essex Company

66 &183 Raymond Blvd.

Newark

NJ

07105

Constituent Of Concern (COC)	Relative Risk Number (RRN)	Total Mass (Tmass)	COC Historic CMass	COC Relative Contribution	COC Base Score
Copper	0.69	2,100,000.00	0	0	0
Lead	0.01	3,200,000.00	0.16	5.087E-8	5.087E-10
Mercury	0.95	42,000.00	0	0	0
HPAHs	0.05	240,000.00	0	0	0
LPAHs	0.01	170,000.00	0	0	0
PCBs	12.87	26,000.00	0	0	0
DDx	1.37	27,000.00	0	0	0
Dieldrin	0.13	390.00	0	0	0
Dioxins_Furans	83.92	38.00	0	0	0

Allocation Facility COC Base Scores - Alternative Calulcation

Covanta Essex Company	66 &183 Raymond Blvd.	Newark	NJ	07105
-----------------------	-----------------------	--------	----	-------

Constituent Of Concern (COC)	Relative Risk Number (RRN)	Total Mass (Tmass)	Total Cmass (TCmass)	Total OS COC ACmass	COC %	COC Historic CMass	Facility OS COC Cmass	COC Relative Responsibility	COC Base Score
Copper	0.69	2,100,000.00	276,960.25	2,097,178.28	0	0	0	0	0
Lead	0.01	3,200,000.00	288,577.67	3,197,059.92	5.536E-5	0.16	177.	5.536E-5	5.536E-7
Mercury	0.95	42,000.00	4,322.53	41,955.96	0	0	0	0	0
HPAHs	0.05	240,000.00	4,346,388.50	195,718.24	0	0	0	0	0
LPAHs	0.01	170,000.00	3,012,835.14	139,304.72	0	0	0	0	0
PCBs	12.87	26,000.00	20,066.54	25,795.56	0	0	0	0	0
DDx	1.37	27,000.00	2,516.93	26,974.36	0	0	0	0	0
Dieldrin	0.13	390.00	1.27	389.99	0	0	0	0	0
Dioxins_Furans	83.92	38.00	3,729.82	0.00	0	0	0	0	0

Facility Bypass Information

Covanta Essex Company	66 &183 Raymond Blvd.	Newark	NJ	07105
-----------------------	-----------------------	--------	----	-------

Item	Bypass Name	Bypass Type	Time %	Flow %	Bypass Notes
1	Newark Bay	Bypass	0.00%	0.00%	Did not discharge waste into the Passaic river

Discharge Calcs	Direct Discharge Information	COMMENTS/NOTES
	# hours/day discharged	NJD PES Storm water Discharge Permit for discharge to Passaic River
	# days/week discharged	1990 permit flow rates PAS-00049021
	# weeks/yr discharged	DNS001 = 2.8-40gpm
9,276,840	# gals/yr directly discharged	DNS002 = 2.8-25gpm
		No Discharge to the PVSC, "other water" Recycled
4.08	ft: 30yr average annual precipitation per Rutgers information	
	acres	
43,560	ft2 per acre	
	acres	
50%	Percent Precip to River	
1990	Yr Ops started	
1997	Yr Ops ceased	Facility went to 0 discharge in 1997
7	calc #yrs facility operated	
Copper (Cu)		
7	#yrs facility discharged	
	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Lead (Pb)		
7	#yrs facility discharged	Lead Results
0.22	calc mg/L COC discharged	196 ug/l PAS-00082812-14
3.785	L per gallon (Merck Index)	169-260ug/l PAS-00049054
0.000001	kg per mg (Merck Index)	196-295 ug/l
52.84	calc kg COC discharged	204 ug/l PAS00106082
Mercury (Hg)		
7	#yrs facility discharged	
	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
HPAHs		
7	#yrs facility discharged	
-	calc mg/L O&G	
10%	% O&G that is considered PAHs	
60%	% COC in O&G considered as PAHs	
-	calc mg/L HPAHs	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
LPAHs		
7	#yrs facility discharged	
-	calc mg/L O&G	
10%	% O&G that is considered PAHs	
40%	% COC in O&G considered as PAHs	
-	calc mg/L LPAHs	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
PCBs		
7	#yrs facility discharged within PCBs Timeline	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
DDx		
7	#yrs facility discharged within DDx Timeline	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dieldrin		
7	#yrs facility discharged within Dieldrin Timeline	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxins/Furans		
7	#yrs facility discharged	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxin/Furan Precursor - 2,4-D		
7	#yrs facility discharged within 2,4-D Timeline	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxin/Furan Precursor - 2,4,5-T		
7	#yrs facility discharged within 2,4,5-T Timeline	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxin/Furan Precursor - 2,4,6-TCP		
7	#yrs facility discharged within 2,4,6-TCP Timeline	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Summary DMassCOC for Direct Discharge:		
-	kg Copper	
15.98	kg Lead	
-	kg Mercury	
-	kg HPAHs	
-	kg LPAHs	
-	kg PCBs	
-	kg DDx	
-	kg Dieldrin	
-	kg Dioxins/Furans	

Facility Base Scores, Culpability Factor, Cooperation Factor and Adjusted Base Scores - Protocol Calculation

Covanta Essex Company

66 &183 Raymond Blvd.		Newark	NJ	07105				
Facility BS	CUF	CUF_Category	CUF_NOTES		COF	COF_NOTES	Facility Adjusted BS	
3.815E-10	5.0%	Occasional Noncompliance	According to a NJDEP letter, dated June 22, 1988, the site was given an "unacceptable" rating for failing to monitor stormwater discharges and inaccurately reporting on discharge monitoring reports that there were no stormwater discharges (PAS-00082684). A 1991 compliance inspection gave the facility an “unacceptable” rating due to lead effluent violations, operational deficiencies (including the presence of ash piles on the ground), and the facility's effluent at outfall DSN001 was black at inspection, violating the facility’s permit which is for stormwater only (PAS-00082812-14). On or about December 1, 1992, NJDEP and ARF entered into an Administrative Consent Order. ARF had exceeded certain discharge limits for lead, among others, in its NJPDES permit (PAS-00106056). Potential for contamination to be caused by preexisting conditions not CE actions		-20.0%	-20% CPG/SPG member - Continuous provision of funding and participation in PRP Group(s) actions to cooperate with governmental/regulatory entities to address environmental or public harm created by own activities	3.243E-10	

AP_ABS	3.243E-10
--------	-----------

Facility Base Scores, Culpability Factor, Cooperation Factor and Adjusted Base Scores - Allocation Calculation

Covanta Essex Company

66 &183 Raymond Blvd.		Newark	NJ	07105			
Facility BS	CUF	CUF_Category	CUF_NOTES		COF	COF_NOTES	Facillty Adjusted BS
4.152E-7	5.0%	Occasional Noncompliance	According to a NJDEP letter, dated June 22, 1988, the site was given an "unacceptable" rating for failing to monitor stormwater discharges and inaccurately reporting on discharge monitoring reports that there were no stormwater discharges (PAS-00082684). A 1991 compliance inspection gave the facility an “unacceptable” rating due to lead effluent violations, operational deficiencies (including the presence of ash piles on the ground), and the facility's effluent at outfall DSN001 was black at inspection, violating the facility’s permit which is for stormwater only (PAS-00082812-14). On or about December 1, 1992, NJDEP and ARF entered into an Administrative Consent Order. ARF had exceeded certain discharge limits for lead, among others, in its NJPDES permit (PAS-00106056). Potential for contamination to be caused by preexisting conditions not CE actions		-20.0%	-20% CPG/SPG member - Continuous provision of funding and participation in PRP Group(s) actions to cooperate with governmental/regulatory entities to address environmental or public harm created by own activities	3.529E-7

AP_ABS

3.529E-7

Allocator's Determinations Regarding Legal Defenses Raised by Allocation Parties

COVANTA

Covanta argues that it is not and has never been the current owner or operator or former owner or operator of the LPRSA [Lower Passaic River Study Area]. Nor is there any evidence or suggestion that Covanta was a transporter of hazardous substances to the LPRSA. Accordingly, it appears that USEPA [United States Environmental Protection Agency] is contending that Covanta may be liable under CERCLA [Comprehensive Environmental Response, Compensation and Liability Act] as an arranger. Arranger liability requires that Covanta took intentional steps to dispose of a hazardous substance....As the United States Supreme Court has explained, intentional steps means that it must be proven that Covanta actually intended to dispose of hazardous substances in the LPRSA....Covanta operates, and since 1997 has operated, the ECRRF as a zero discharge facility, except during unusual storm events....The only evidence allegedly connecting Covanta to the LPRSA is the stormwater exceedances in ditches at the Property. These exceedances, however, are not attributable to the ECRRF or Covanta. Instead, these exceedances all stem from pre-existing contamination on the Property – property subjected to illegal dumping, previously owned by the NRHA [Newark Redevelopment and Housing Authority], and currently owned by the Port Authority – as well as offsite, upgradient sources and surface water backflow from the Passaic River. Simply put, there is no evidence that Covanta disposed of anything in the LPRSA (i.e., engaged in some active conduct that caused the discharge, deposit, injection, dumping, spilling, leaking, or placing of any hazardous substances in the LPRSA)....Even if evidence of the disposal of hazardous substances by Covanta did exist (and it does not), there is no evidence that Covanta intended to dispose of any hazardous substances in the LPRSA. Without intent, Covanta cannot be an arranger under CERCLA – even if Covanta knew or should have known that stormwater runoff carrying pre-existing contamination at the Property or contamination from other parties could discharge to the LPRSA.

In addition, Covanta asserts that, even putting aside the lack of evidence that Covanta is an arranger, there is another problem with seeking to hold Covanta liable under CERCLA for LPRSA impacts: Covanta's hazardous substances, if any, have not caused and will not cause the incurrence of response costs. In order to be liable under CERCLA, Covanta's releases of hazardous substances must cause the incurrence of response costs.... although lead is a COC for the LPRSA, USEPA has determined...that lead is not driving any response actions. In addition, none of the other substances detected in stormwater at the Property are COCs for the LPRSA. As hazardous substances in the Property's stormwater discharges will not cause the incurrence of LPRSA response costs, Covanta cannot be liable under CERCLA. Covanta reserves the right to assert additional defenses in the future.

ALLOCATOR'S DETERMINATION – As noted in the information regarding the site submitted by Covanta, it is clear the Covanta had stormwater discharges from their property that have contributed lead, one of the COCs identified by EPA, to the Lower Passaic. While they may be correct that the lead was deposited on their property by a former owner, that they have not intended to have stormwater discharges, and that lead is not the primary driver for the remediation, none of those arguments avoid liability under CERCLA. The Allocator does not

believe that Covanta will prevail in an action to overturn EPA's determination of Covanta as a PRP based on the available information. The possibility that a COC was transported to the facility site from an offsite location was taken into account in determining Covanta's allocated share.

Allocation Facility Cmass Calculation

Curtiss-Wright Corporation	1 Passaic Avenue	Wood-Ridge	NJ	07075
----------------------------	------------------	------------	----	-------

Constituent Of Concern (COC)	Overland, Fate & Transport C%	Dmass Overland, Fate & Transport	PrePVSC C%	Dmass PrePVSC	PVSC C%	Dmass PVSC	Direct Discharge C%	Dmass Direct Discharge	COC Total Pathway Cmass	COC A%	COC Historic CMass
Copper	100.00%	1,762.36	100.00%	-	2.32%	1,986.37	100.00%	-	1,808.44	1.018817E-2	18.42
Lead	100.00%	12,817.15	100.00%	-	2.32%	744.89	100.00%	-	12,834.43	1.018817E-2	130.76
Mercury	100.00%	45.93	100.00%	-	2.32%	3.35	100.00%	-	46.01	1.018817E-2	0.47
HPAHs	100.00%	72.86	100.00%	-	2.32%	2,234.66	100.00%	-	124.7	1.018817E-2	1.27
LPAHs	100.00%	66.01	100.00%	-	2.32%	1,489.78	100.00%	-	100.57	1.018817E-2	1.02
PCBs	100.00%	18.69	100.00%	-	2.32%	-	100.00%	-	18.69	1.018817E-2	0.19
DDx	100.00%	-	100.00%	-	2.32%	-	100.00%	-	0	1.018817E-2	0
Dieldrin	100.00%	-	100.00%	-	2.32%	-	100.00%	-	0	1.018817E-2	0
Dioxins_Furans	100.00%	-	100.00%	-	2.32%	-	100.00%	-	0	1.018817E-2	0

Constituent Of Concern (COC)	Relative Risk Number (RRN)	Total Mass (Tmass)	COC Historic CMass	COC Relative Contribution	COC Base Score
Copper	0.69	2,100,000.00	18.42	8.774E-6	6.054E-6
Lead	0.01	3,200,000.00	130.76	4.086E-5	4.086E-7
Mercury	0.95	42,000.00	0.47	1.116E-5	1.060E-5
HPAHs	0.05	240,000.00	1.27	5.294E-6	2.647E-7
LPAHs	0.01	170,000.00	1.02	6.027E-6	6.027E-8
PCBs	12.87	26,000.00	0.19	7.324E-6	9.426E-5
DDx	1.37	27,000.00	0	0	0
Dieldrin	0.13	390.00	0	0	0
Dioxins_Furans	83.92	38.00	0	0	0

Allocation Facility COC Base Scores - Alternative Calulcation

Curtiss-Wright Corporation	1 Passaic Avenue	Wood-Ridge	NJ	07075
----------------------------	------------------	------------	----	-------

Constituent Of Concern (COC)	Relative Risk Number (RRN)	Total Mass (Tmass)	Total Cmass (TCmass)	Total OS COC ACmass	COC %	COC Historic CMass	Facility OS COC Cmass	COC Relative Responsibility	COC Base Score
Copper	0.69	2,100,000.00	276,960.25	2,097,178.28	6.530E-3	18.42	13,693.77	6.530E-3	4.505E-3
Lead	0.01	3,200,000.00	288,577.67	3,197,059.92	4.447E-2	130.76	142,188.58	4.447E-2	4.447E-4
Mercury	0.95	42,000.00	4,322.53	41,955.96	1.064E-2	0.47	446.57	1.064E-2	1.011E-2
HPAHs	0.05	240,000.00	4,346,388.50	195,718.24	2.869E-5	1.27	5.62	2.869E-5	1.435E-6
LPAHs	0.01	170,000.00	3,012,835.14	139,304.72	3.338E-5	1.02	4.65	3.338E-5	3.338E-7
PCBs	12.87	26,000.00	20,066.54	25,795.56	9.314E-4	0.19	24.03	9.314E-4	1.199E-2
DDx	1.37	27,000.00	2,516.93	26,974.36	0	0	0	0	0
Dieldrin	0.13	390.00	1.27	389.99	0	0	0	0	0
Dioxins_Furans	83.92	38.00	3,729.82	0.00	0	0	0	0	0

Facility Bypass Information

Curtiss-Wright Corporation	1 Passaic Avenue	Wood-Ridge	NJ	07075
----------------------------	------------------	------------	----	-------

Item	Bypass Name	Bypass Type	Time %	Flow %	Bypass Notes
1	Yantacaw	Bypass	2.32%	100.00%	

Discharge Calcs	POTW Discharge Information	COMMENTS/NOTES
	gal discharged per day/week/month	Limited information on Discharge COCs and no information on Discharge Flows.
	# hours/per day discharged	Based on Otis Elevator assuming 24MGT to PVSC
	#days/week discharged	
	#weeks/yr discharged	
24,000,000	calc gal/yr discharge	
1942	Yr Ops started	
1983	Yr Ops ceased	
41	calc #yrs facility operated	
Copper (Cu)		
41	#yrs facility discharged	1979-1984 Data Cu=.2 mg/l PAP-0456964-101
0.53	calc mg/L COC discharged	1983 sample Cu = .72 and .68 mg/l PAP-00457009
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
1,986.37	calc kg COC discharged	
Lead (Pb)		
41	#yrs facility discharged	1979-1984 Data Pb=.2 mg/l PAP-0456964-101
0.20	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
744.89	calc kg COC discharged	
Mercury (Hg)		
41	#yrs facility discharged	1981 Sample Data Hg=.0009mg/l PAP-00457060
0.0009	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
3.35	calc kg COC discharged	
HPAHs		
41	#yrs facility discharged	Assuming 10 mg/l O&G
10.00	calc mg/L O&G	
10%	% O&G that is considered PAHs	
60%	% PAHs considered as HPAHs	
1	calc mg/L HPAHs	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
2,234.66	calc kg COC discharged	
LPAHs		
41	#yrs facility discharged	Assuming 10 mg/l O&G
10.00	calc mg/L O&G	
10%	% O&G that is considered PAHs	
40%	% PAHs considered as LPAHs	
0	calc mg/L LPAHs	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
1,489.78	calc kg COC discharged	
PCBs		
36	#yrs facility discharged within PCBs Timeline	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
DDx		
31	#yrs facility discharged within DDx Timeline	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dieldrin		
34	#yrs facility discharged within Dieldrin Timeline	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxins/Furans		
41	#yrs facility discharged	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxin/Furan Precursor - 2,4-D		
38	#yrs facility discharged within 2,4-D Timeline	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxin/Furan Precursor - 2,4,5-T		
39	#yrs facility discharged within 2,4,5-T Timeline	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxin/Furan Precursor - 2,4,6-TCP		
26	#yrs facility discharged within 2,4,6-TCP Timeline	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Summary DMassCOC for POTW:		
1,986.37	kg Copper	
744.89	kg Lead	
3.35	kg Mercury	
2,234.66	kg HPAHs	
1,489.78	kg LPAHs	
-	kg PCBs	
-	kg DDx	
-	kg Dieldrin	
-	kg Dioxins/Furans	

Discharge Calcs	Direct Discharge Information	ASSUMPTIONS, REFERENCES	COMMENTS/NOTES
	4.08 FEET/YEAR AVERAGE PRECIPITATION	Long term average annual precipitation includes floods and hurricane events occurring over time.	Data from Rutgers University.
	160 ACRES - TOTAL SITE AREA (acres) 115.0 ACRES - AFFECTED AREA	FDR page 1 In 1951, the main, shared occupancy building is 38 acres, 6 NE-SW orientated buildings cover approximately 7 acres (PAP-00190307). Removing the building coverage from the 160 acres total leaves 115 acres subject to erosion.	
	4,046.86 METERS ² /ACRE		
	465,389 METERS ² (AFFECTED AREA)		
	0.0001 METERS/YEAR (ERODED SOIL THICKNESS)	For this estimate, used a surface soil erosion rate of 0.1 mm/year, or 0.004 inches/year.	
	47 METERS ³ /YEAR (ERODED SOIL VOLUME)	VOLUME/YEAR DISCHARGED	
	1943 Year site operations began	Curtiss-Wright Corp operated an aircraft engine manufacturing palnt at the site from March 1943 until November 1983. (PAP-00190346).	
	2001 Year site processing and storage operations ceased	Curtiss-Wright Corp owned site through 2001 (FDR page 1)	
	58 NUMBER YEARS DISCHARGE		
	2,699 METERS ³ (TOTAL SOIL VOLUME DISCHARGED OVER TIME)		
	1,979 KG/M ³ SOIL DENSITY	Unconsolidated surface deposits generally consist of sand, silt, clay, and fine sand (PAP-00393240). Bulk density range 1,602 KG/M ³ to 2,355 KG/M ³ , so use average 1978.5 kg/m3 for Sandy or Silty Clay on (http://structx.com/Soil_Properties_002.html)	
	5,340,477 KILOGRAMS (TOTAL SOIL DISCHARGED OVER TIME)	Facility is not located on historic fill (FDR page 4)	
Copper (Cu)	58 YEARS DISCHARGED 330 MG/KG (MAX CONCENTRATION) 0.000001 kg per mg (Merck Index) 1,762 KILOGRAMS DISCHARGED	Soil boring sample (PAP-00393057)	
Lead (Pb)	58 YEARS DISCHARGED 2400 MG/KG (AVERAGE CONCENTRATION) 0.000001 kg per mg (Merck Index) 12,817 KILOGRAMS DISCHARGED	Soil boring sample (PAP-00393057)	
Mercury (Hg)	58 YEARS DISCHARGED 8.6 MG/KG (MAX CONCENTRATION) 0.000001 kg per mg (Merck Index) 46 KILOGRAMS DISCHARGED	Soil boring sample (PAP-00393057)	
PAHs (listed in Benzo(a)pyrene Equivalent conversion table)	58 YEARS DISCHARGED 13.6 MG/KG (TOTAL PAH MAX CONCENTRATION) 0.000001 kg per mg (Merck Index) 73 KILOGRAMS DISCHARGED	Total concentration of PAH compounds for Benzo(a)pyrene Equivalent https://floridadep.gov/waste/petroleum-restoration/documents/benzo-pyrene-equivalents-conversion-table-one-sample. No documentation of PAHs can be located other than the Rotary Power 1987 Post Excavation Soil Sample Results, Table 7.1-1 (PAP-00393180)	
PAHs (others detected)	58 YEARS DISCHARGED 12 MG/KG (TOTAL PAH MAX CONCENTRATION) 0.000001 kg per mg (Merck Index) 66 KILOGRAMS DISCHARGED	Data below the Benzo(a)pyrene Equivalent Table	
PCBs	58 YEARS DISCHARGED 3.5 MG/KG (MAX OF REPORTED CONCENTRATIONS) 0.000001 kg per mg (Merck Index) 19 KILOGRAMS DISCHARGED	Soil sample OF-29.1A from 5.5-6.0 ft below grade (PAP-00393154)	
SUMMARY CMASS ESTIMATES:			
1,762.36 kg Copper			
12,817.15 kg Lead			
45.93 kg Mercury			
72.86 kg PAHs (Benzo(a)pyrene Equivalent)			
66.01 kg PAHs (Other)			
18.69 kg PCBs			
14782.99 MASS (KG) DISCHARGED FROM SURFACE SOIL			

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	9.300	1.0	9.3000
Benzo(a)anthracene	8.900	0.1	0.8900
Benzo(b)fluoranthene	0.000	0.1	0.0000
Benzo(k)fluoranthene	12.400	0.01	0.1240
Chrysene	9.300	0.001	0.0093
Dibenz(a,h)anthracene	3.000	1.0	3.0000
Indeno(1,2,3-cd)pyrene	3.200	0.1	0.3200
DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg			
Total Benzo(a)pyrene Equivalents =			13.6

TABLE 7.1-1 Sample SS-C 0.0-0.5 ft bgs (PAP-00393180)	
Anthracene	1.7
Acenaphthene	0.82
Acenaphthylene	0
Fluorene	0.44
Naphthalene	0.1
Phenanthrene	9.3
2-Methylnaphthalene	0
SUM	12.36

Facility Base Scores, Culpability Factor, Cooperation Factor and Adjusted Base Scores - Protocol Calculation

Curtiss-Wright Corporation

1 Passaic Avenue	Wood-Ridge	NJ	07075
------------------	------------	----	-------

Facility BS	CUF	CUF_Category	CUF_NOTES	COF	COF_NOTES	Facillty Adjusted BS
1.116E-4	5.0%	Occasional Noncompliance	A PVSC letter report of pollutions corrected in 1969, dated March 31, 1970, identified intermittent polluting discharges containing oil in 1968 from Curtiss-Wright to Felds Brook, which the report described as a tributary to the Passaic River (PAS-00008279). A letter reporting the results of an Inspection and Insulating Fluid Evaluation by Burlington Testing Company dated September 7, 1984 stated that 27 of 62 transformers showed evidence of slight leakage at various points, such as gauges, fins, valves, gaskets, tap changer, and bushing throats. Spills at two of the askarel (PCB)-filled transformers were also noted (PAP-00191030).	0.0%	0% Cooperation with conduct of allocation and requests for related information	1.172E-4

AP_ABS	1.172E-4
--------	----------

Curtiss-Wright Corporation

**Wood-
Ridge**

07075

AP_ABS	2.840E-2
--------	----------

AP_ABS

2.840E-2

Allocation Facility Cmass Calculation

DII Industries, LLC	401 Worthington Avenue	Harrison	NJ	07029
---------------------	------------------------	----------	----	-------

Constituent Of Concern (COC)	Overland, Fate & Transport C%	Dmass Overland, Fate & Transport	PrePVSC C%	Dmass PrePVSC	PVSC C%	Dmass PVSC	Direct Discharge C%	Dmass Direct Discharge	COC Total Pathway Cmass	COC A%	COC Historic CMass
Copper	100.00%	3,023.03	100.00%	-	0.27%	-	100.00%	-	3,023.03	1.018817E-2	30.8
Lead	100.00%	391.51	100.00%	-	0.27%	-	100.00%	-	391.51	1.018817E-2	3.99
Mercury	100.00%	1.75	100.00%	-	0.27%	0.41	100.00%	-	1.75	1.018817E-2	0.02
HPAHs	100.00%	9.18	100.00%	-	0.27%	-	100.00%	-	9.18	1.018817E-2	0.09
LPAHs	100.00%	1.06	100.00%	-	0.27%	-	100.00%	-	1.06	1.018817E-2	0.01
PCBs	100.00%	1.54	100.00%	-	0.27%	-	100.00%	-	1.54	1.018817E-2	0.02
DDx	100.00%	-	100.00%	-	0.27%	-	100.00%	-	0	1.018817E-2	0
Dieldrin	100.00%	-	100.00%	-	0.27%	-	100.00%	-	0	1.018817E-2	0
Dioxins_Furans	100.00%	-	100.00%	-	0.27%	-	100.00%	-	0	1.018817E-2	0

DII Industries, LLC

401 Worthington Avenue

Harrison

NJ

07029

Constituent Of Concern (COC)	Relative Risk Number (RRN)	Total Mass (Tmass)	COC Historic CMass	COC Relative Contribution	COC Base Score
Copper	0.69	2,100,000.00	30.8	1.467E-5	1.012E-5
Lead	0.01	3,200,000.00	3.99	1.246E-6	1.246E-8
Mercury	0.95	42,000.00	0.02	4.248E-7	4.035E-7
HPAHs	0.05	240,000.00	0.09	3.897E-7	1.948E-8
LPAHs	0.01	170,000.00	0.01	6.353E-8	6.353E-10
PCBs	12.87	26,000.00	0.02	6.035E-7	7.766E-6
DDx	1.37	27,000.00	0	0	0
Dieldrin	0.13	390.00	0	0	0
Dioxins_Furans	83.92	38.00	0	0	0

Allocation Facility COC Base Scores - Alternative Calulcation

DII Industries, LLC	401 Worthington Avenue	Harrison	NJ	07029
---------------------	------------------------	----------	----	-------

Constituent Of Concern (COC)	Relative Risk Number (RRN)	Total Mass (Tmass)	Total Cmass (TCmass)	Total OS COC ACmass	COC %	COC Historic CMass	Facility OS COC Cmass	COC Relative Responsibility	COC Base Score
Copper	0.69	2,100,000.00	276,960.25	2,097,178.28	1.092E-2	30.8	22,890.77	1.092E-2	7.531E-3
Lead	0.01	3,200,000.00	288,577.67	3,197,059.92	1.357E-3	3.99	4,337.41	1.357E-3	1.357E-5
Mercury	0.95	42,000.00	4,322.53	41,955.96	4.051E-4	0.02	17.	4.051E-4	3.849E-4
HPAHs	0.05	240,000.00	4,346,388.50	195,718.24	2.112E-6	0.09	0.41	2.112E-6	1.056E-7
LPAHs	0.01	170,000.00	3,012,835.14	139,304.72	3.518E-7	0.01	0.05	3.518E-7	3.518E-9
PCBs	12.87	26,000.00	20,066.54	25,795.56	7.674E-5	0.02	1.98	7.674E-5	9.877E-4
DDx	1.37	27,000.00	2,516.93	26,974.36	0	0	0	0	0
Dieldrin	0.13	390.00	1.27	389.99	0	0	0	0	0
Dioxins_Furans	83.92	38.00	3,729.82	0.00	0	0	0	0	0

Facility Bypass Information

DII Industries, LLC	401 Worthington Avenue	Harrison	NJ	07029
---------------------	------------------------	----------	----	-------

Item	Bypass Name	Bypass Type	Time %	Flow %	Bypass Notes
1	Worthington Ave	CSO	0.48%	56.33%	No metering was done at this location for the Killiam report. CSO percentages were calculated by the median of all CSOs in the Harrison municipality

Discharge Calcs	POTW Discharge Information	COMMENTS/NOTES
	gal discharged per day/week/month	No Permitted discharges to Surface Water
	# hours/per day discharged	PVSC Permit No. 13402044 (PAS-00023275)
	#days/week discharged	Non contact cooling water and floor drains to PVSC w/ sanitary water
	#weeks/yr discharged	Did not generate process wastewater
13,500,000	calc gal/yr discharge	1989-1990 flows
		4.3 MGY Cooling Water
1985	Yr Ops started	9.2 MGY Sanitary
1993	Yr Ops ceased	
8	calc #yrs facility operated	Water from catch basins were discharged to PVSC
Copper (Cu)		
8	#yrs facility discharged	
	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Lead (Pb)		
8	#yrs facility discharged	
	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Mercury (Hg)		Only monitoring data from 1986 for Mercury
8	#yrs facility discharged	
0.0010	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
0.41	calc kg COC discharged	
HPAHs		
8	#yrs facility discharged	
	calc mg/L O&G	
10%	% O&G that is considered PAHs	
60%	% COC in O&G considered as PAHs	
-	calc mg/L HPAHs	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
LPAHs		
8	#yrs facility discharged	
	calc mg/L O&G	
10%	% O&G that is considered PAHs	
40%	% COC in O&G considered as PAHs	
-	calc mg/L LPAHs	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
PCBs		
-7	#yrs facility discharged within PCBs Timeline	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
DDx		
-12	#yrs facility discharged within DDx Timeline	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dieldrin		
3	#yrs facility discharged within Dieldrin Timeline	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxins/Furans		
8	#yrs facility discharged	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxin/Furan Precursor - 2,4-D		
9	#yrs facility discharged within 2,4-D Timeline	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxin/Furan Precursor - 2,4,5-T		
1	#yrs facility discharged within 2,4,5-T Timeline	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Dioxin/Furan Precursor - 2,4,6-TCP		
-9	#yrs facility discharged within 2,4,6-TCP Timeline	
-	calc mg/L COC discharged	
3.785	L per gallon (Merck Index)	
0.000001	kg per mg (Merck Index)	
-	calc kg COC discharged	
Summary DMassCOC for POTW:		
-	kg Copper	
-	kg Lead	
0.41	kg Mercury	
-	kg HPAHs	
-	kg LPAHs	
-	kg PCBs	
-	kg DDx	
-	kg Dieldrin	
-	kg Dioxins/Furans	

Discharge Calcs	Direct Discharge Information	ASSUMPTIONS, REFERENCES	COMMENTS/NOTES
	4.083 FEET/YEAR AVERAGE PRECIPITATION	Long term average annual precipitation includes floods and hurricane events occurring over time.	Data from Rutgers University.
	23 ACRES - TOTAL SITE AREA (acres)	FDR p 1	
	5.2 ACRES - AFFECTED AREA	Soil piles and unpaved areas (PAS-00022928 and PAS-0002293)	5.2 acres is based on the estimated pervious area in the figure on PAS-00022928.
	4,046.86 METERS ² /ACRE		
	21,044 METERS ² (AFFECTED AREA)		
	0.0001 METERS/YEAR (ERODED SOIL THICKNESS)	For this estimate, used a surface soil erosion rate of 0.1 mm/year, or 0.004 inches/year.	
	2 METERS ³ /YEAR (ERODED SOIL VOLUME)	VOLUME/YEAR DISCHARGED TO PASSAIC RIVER	
	1985 Year site operations began	Operated and owned by DII/Dresser from January 1985 to February 1997. (FDR page 1)	
	1997 Year site processing and storage operations ceased	Dresser/DII ceased commercial or manufacturing operations at the plant in October 1993 (FDR page 1; PAS-0063866, PAS-00122467).	Dresser/DII sold site in 1997 (FDR page 1; PAS-0063866, PAS-00122467)
	12 NUMBER YEARS DISCHARGE		
	25.2524064 METERS3 (TOTAL SOIL VOLUME DISCHARGED OVER TIME)		
	1962.5 KG/M3 SOIL DENSITY	Fill is red-brown line sands and silts with lesser quantities of medium to coarse-grained sands, gravels, and clays. (PAS-00023130, PDF page 212). Used "silty sand and gravel" soil type from http://structx.com/Soil_Properties_002.html . Bulk density range 1442 KG/M3 to 2483 KG/M3, so use average. Average is 1962.5 kg/m3	
	49,558 KILOGRAMS (TOTAL SOIL DISCHARGED OVER TIME)	The Allocation Team has determined that the facility site is not located on regional Historic Fill as designated by the NJDEP (FDR page 8)	
Copper (Cu)	12 YEARS DISCHARGED		
	61000 MG/KG (MAX CONCENTRATION)	Sample 4b-2 at a depth of 0-6 inches bgs (PAS-00023061)	
	0.000001 kg per mg (Merck Index)		
	3,023 KILOGRAMS DISCHARGED		
Lead (Pb)	12 YEARS DISCHARGED		
	7900 MG/KG (MAX CONCENTRATION)	Sample 4b-2 at a depth of 0-6 inches bgs (PAS-00023061)	
	0.000001 kg per mg (Merck Index)		
	392 KILOGRAMS DISCHARGED		
Mercury	12 YEARS DISCHARGED		
	35.4 MG/KG (MAX CONCENTRATIONS)	Maximum mercury concentration (PAS-00023178).	
	0.000001 kg per mg (Merck Index)		
	2 KILOGRAMS DISCHARGED		

PAHs (listed in Benzo(a)pyrene
Equivalent conversion table)

12 YEARS DISCHARGED

185.231262 MG/KG (TOTAL PAH AVERAGE CONCENTRATION)

0.000001 kg per mg (Merck Index)
9 KILOGRAMS DISCHARGED

PAHs (others detected)

12 YEARS DISCHARGED

21.315 MG/KG (TOTAL PAH MAX CONCENTRATION)

0.000001 kg per mg (Merck Index)
1 KILOGRAMS DISCHARGED

PCBs

12 YEARS DISCHARGED

31 MG/KG (MAX OF REPORTED CONCENTRATIONS)

0.000001 kg per mg (Merck Index)
1.5 KILOGRAMS DISCHARGED

SUMMARY CMASS ESTIMATES:	
3023.03 kg	Copper
391.51 kg	Lead
1.75 kg	Mercury
9.18 kg	PAHs (Benzo(a)pyrene Equivalent)
1.06 kg	PAHs (Other)
1.54 kg	PCBs
0.00 kg	Dieldrin
0.00 kg	Dioxins/Furans
3428.06 MASS (KG) DISCHARGED FROM SURFACE SOIL	

Total concentration of PAH compounds for Benzo(a)pyrene Equivalent
<https://floridadep.gov/waste/petroleum-restoration/documents/benzo-pyrene-equivalents-conversion-table-one-sample>.

The levels of PAHs, copper, lead and mercury detected at the site in soils are presented in the table below (PAS-00023024; PAS-00023178; PAS-00023171). (FDR page 8).
Sum of Benzo(a)pyrene Equivalent conversion concentrations

Phenanthrene - 14.958 ppm
Acenaphthylene - 0.597 ppm
2-methylnaphthalene - 0.353J ppm
Naphthalene - 0.732 ppm
Fluorene - 0.812 ppm
Acenaphthene - 1.21 ppm
Anthracene - 2.653 ppm

Sample EPL-R8-5A(PAS-0023171, Table 26)

The maximum detected PCB concentration was Aroclor-1254 in soil sample 4c-4 at a depth of 0-6 inches (PAS-00023060)

Maximum concentrations from surface sample (EPL-RB-5A (0.5-1.0 ft)) (PAS-00023171).	Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
	Benzo(a)pyrene	148.489	1.0	148.4890
	Benzo(a)anthracene	104.440	0.1	10.4440
	Benzo(b)fluoranthene	122.640	0.1	12.2640
	Benzo(k)fluoranthene	54.352	0.01	0.5435
	Chrysene	103.142	0.001	0.1031
	Dibenz(a,h)anthracene	11.240	1.0	11.2400
	Indeno(1,2,3-cd)pyrene	21.476	0.1	2.1476
DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg Total Benzo(a)pyrene Equivalents =				185.2

DII Industries, LLC

401 Worthington Avenue	Harrison	NJ	07029
------------------------	----------	----	-------

Facility BS	CUF	CUF_Category	CUF_NOTES	COF	COF_NOTES	Facillty Adjusted BS
1.832E-5	0.0%	Historically Compliant or No Evidence	There is one violation citing N.J.A.C. 7:26-9.4 (g) 8 et seq. – failure to conduct semi-annual drills. 9.6(f) 4 – failure to familiarize local hospitals with properties of hazardous waste handled onsite. 9.7(a) – failure to have a written contingency plan (PAS-00122350).	-20.0%	-20% CPG/SPG member - Continuous provision of funding and participation in PRP Group(s) actions to cooperate with governmental/regulatory entities to address environmental or public harm created by own activities	1.466E-5

AP_ABS	1.466E-5
--------	----------

DII Industries, LLC

401 Worthington Avenue	Harrison	NJ	07029
------------------------	----------	----	-------

Facility BS	CUF	CUF_Category	CUF_NOTES	COF	COF_NOTES	Facillty Adjusted BS
8.918E-3	0.0%	Historically Compliant or No Evidence	There is one violation citing N.J.A.C. 7:26-9.4 (g) 8 et seq. – failure to conduct semi-annual drills. 9.6(f) 4 – failure to familiarize local hospitals with properties of hazardous waste handled onsite. 9.7(a) – failure to have a written contingency plan (PAS-00122350).	-20.0%	-20% CPG/SPG member - Continuous provision of funding and participation in PRP Group(s) actions to cooperate with governmental/regulatory entities to address environmental or public harm created by own activities	7.134E-3

AP_ABS	7.134E-3
--------	----------